Michigan Register

Issue No. 8– 2008 (Published May 15, 2008)

GRAPHIC IMAGES IN THE

MICHIGAN REGISTER

COVER DRAWING

Michigan State Capitol:

This image, with flags flying to indicate that both chambers of the legislature are in session, may have originated as an etching based on a drawing or a photograph. The artist is unknown. The drawing predates the placement of the statue of Austin T. Blair on the capitol grounds in 1898.

(Michigan State Archives)

PAGE GRAPHICS

Capitol Dome:

The architectural rendering of the Michigan State Capitol's dome is the work of Elijah E. Myers, the building's renowned architect. Myers inked the rendering on linen in late 1871 or early 1872. Myers' fine draftsmanship, the hallmark of his work, is clearly evident.

Because of their size, few architectural renderings of the 19th century have survived. Michigan is fortunate that many of Myers' designs for the Capitol were found in the building's attic in the 1950's. As part of the state's 1987 sesquicentennial celebration, they were conserved and deposited in the Michigan State Archives.

(Michigan State Archives)

East Elevation of the Michigan State Capitol:

When Myers' drawings were discovered in the 1950's, this view of the Capitol – the one most familiar to Michigan citizens – was missing. During the building's recent restoration (1989-1992), this drawing was commissioned to recreate the architect's original rendering of the east (front) elevation.

(Michigan Capitol Committee)

Michigan Register

Published pursuant to § 24.208 of
The Michigan Compiled Laws

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Jennifer M. Granholm, Governor

John D. Cherry Jr., Lieutenant Governor

PREFACE

PUBLICATION AND CONTENTS OF THE MICHIGAN REGISTER

The State Office of Administrative Hearings and Rules publishes the *Michigan Register*.

While several statutory provisions address the publication and contents of the *Michigan Register*, two are of particular importance.

MCL 24.208 states:

Sec. 8 (1) The State Office of Administrative Hearings and Rules shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:

(a) Executive orders and executive reorganization orders.
(b) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills signed into law by the governor during the calendar year and the corresponding public act numbers.
(c) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills vetoed by the governor during the calendar year.
(d) Proposed administrative rules.
(e) Notices of public hearings on proposed administrative rules.
(f) Administrative rules filed with the secretary of state.
(g) Emergency rules filed with the secretary of state.
(h) Notice of proposed and adopted agency guidelines.
(i) Other official information considered necessary or appropriate by the State Office of Administrative Hearings and Rules.
(j) Attorney general opinions.
(k) All of the items listed in section 7(1) after final approval by the certificate of need commission or the statewide health coordinating council under section 22215 or 22217 of the public health code, 1978 PA 368, MCL 333.22215 and 333.22217.

(2) The State Office of Administrative Hearings and Rules shall publish a cumulative index for the Michigan register.

(3) The Michigan register shall be available for public subscription at a fee reasonably calculated to cover publication and distribution costs.

(4) If publication of an agency's proposed rule or guideline or an item described in subsection (1)(k) would be unreasonably expensive or lengthy, the State Office of Administrative Hearings and Rules may publish a brief synopsis of the proposed rule or guideline or item described in subsection (1)(k), including information on how to obtain a complete copy of the proposed rule or guideline or item described in subsection (1)(k) from the agency at no cost.

(5) An agency shall transmit a copy of the proposed rules and notice of public hearing to the State Office of Administrative Hearings and Rules for publication in the Michigan register.

MCL 4.1203 states:

Sec. 203. (1) The Michigan register fund is created in the state treasury and shall be administered by the State Office of Administrative Hearings and Rules. The fund shall be expended only as provided in this section.

(2) The money received from the sale of the Michigan register, along with those amounts paid by state agencies pursuant to section 57 of the administrative procedures act of 1969, 1969 PA 306, MCL 24.257, shall be deposited with the state treasurer and credited to the Michigan register fund.

(3) The Michigan register fund shall be used to pay the costs preparing, printing, and distributing the Michigan register.

(4) The department of management and budget shall sell copies of Michigan register at a price determined by the State Office of Administrative Hearings and Rules not to exceed cost of preparation, printing, and distribution.

(5) Notwithstanding section 204, beginning January 1, 2001, the State Office of Administrative Hearings and Rules shall make the text of the Michigan register available to the public on the internet.

(6) The information described in subsection (5) that is maintained by the State Office of Administrative Hearings and Rules shall be made available in the shortest feasible time after the information is available. The information described in subsection (5) that is not maintained by the State Office of Administrative Hearings and Rules shall be made available in the shortest feasible time after it is made available to the State Office of Administrative Hearings and Rules.

(7) Subsection (5) does not alter or relinquish any copyright or other proprietary interest or entitlement of this state relating to any of the information made available under subsection (5).

(8) The State Office of Administrative Hearings and Rules shall not charge a fee for providing the Michigan register on the internet as provided in subsection (5).

(9) As used in this section, "Michigan register" means that term as defined in section 5 of the administrative procedures act of 1969, 1969 PA 306, MCL 24.205.

CITATION TO THE MICHIGAN REGISTER

The *Michigan Register* is cited by year and issue number. For example, 2001 MR 1 refers to the year of issue (2001) and the issue number (1).

CLOSING DATES AND PUBLICATION SCHEDULE

The deadlines for submitting documents to the State Office of Administrative Hearings and Rules for publication in the *Michigan Register* are the first and fifteenth days of each calendar month, unless the submission day falls on a Saturday, Sunday, or legal holiday, in which event the deadline is extended to include the next day which is not a Saturday, Sunday, or legal holiday. Documents filed or received after 5:00 p.m. on the closing date of a filing period will appear in the succeeding issue of the *Michigan Register*.

The State Office of Administrative Hearings and Rules is not responsible for the editing and proofreading of documents submitted for publication.

Documents submitted for publication should be delivered or mailed in an electronic format to the following address: MICHIGAN REGISTER, State Office of Administrative Hearings and Rules, Ottawa Building - Second Floor, 611 W. Ottawa, P.O. Box 30695, Lansing, MI 48933.

RELATIONSHIP TO THE MICHIGAN ADMINISTRATIVE CODE

The *Michigan Administrative Code* (1979 edition), which contains all permanent administrative rules in effect as of December 1979, was, during the period 1980-83, updated each calendar quarter with the publication of a paperback supplement. An annual supplement contained those permanent rules, which had appeared in the 4 quarterly supplements covering that year.

Quarterly supplements to the Code were discontinued in January 1984, and replaced by the monthly publication of permanent rules and emergency rules in the *Michigan Register*. Annual supplements have included the full text of those permanent rules that appear in the twelve monthly issues of the *Register* during a given calendar year. Emergency rules published in an issue of the *Register* are noted in the annual supplement to the Code.

SUBSCRIPTIONS AND DISTRIBUTION

The *Michigan Register*, a publication of the State of Michigan, is available for public subscription at a cost of $400.00 per year. Submit subscription requests to: State Office of Administrative Hearings and Rules, Ottawa Building - Second Floor, 611 W. Ottawa, P.O. Box 30695, Lansing, MI 48933. Checks Payable: State of Michigan. Any questions should be directed to the State Office of Administrative Hearings and Rules (517) 335-2484.

INTERNET ACCESS

The *Michigan Register* can be viewed free of charge on the Internet web site of the State Office of Administrative Hearings and Rules: www.michigan.gov/cis/0,1607,7-154-10576_35738---,00.html

Issue 2000-3 and all subsequent editions of the *Michigan Register* can be viewed on the State Office of Administrative Hearings and Rules Internet web site. The electronic version of the *Register* can be navigated using the blue highlighted links found in the Contents section. Clicking on a highlighted title will take the reader to related text, clicking on a highlighted header above the text will return the reader to the Contents section.

Peter Plummer, Executive Director
State Office of Administrative Hearings and Rules

2008 PUBLICATION SCHEDULE

Issue No.	Closing Date for Filing or Submission Of Documents (5 p.m.)	Publication Date
1	January 15, 2008	February 1, 2008
2	February 1, 2008	February 15, 2008
3	February 15, 2008	March 1, 2008
4	March 1, 2008	March 15, 2008
5	March 15, 2008	April 1, 2008
6	April 1, 2008	April 15, 2008
7	April 15, 2008	May 1, 2008
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ADMINISTRATIVE RULES
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MCL 24.208 states in part:

"Sec. 8. (1) The State Office of Administrative Hearings and Rules shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:

* * *

(f) Administrative rules filed with the secretary of state."

ADMINISTRATIVE RULES

SOAHR 2004-056

DEPARTMENT OF MANAGEMENT AND BUDGET

STATE EMPLOYEES' RETIREMENT BOARD

GENERAL RULES

Filed with the Secretary of State on May 1, 2008

These rules become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the State Employees Retirement Board by section 2 of 1943 PA 240, MCL 38.2)

R 38.21, R 38.22, R 38.23, R 38.24, R 38.25, R 38.26, R 38.27, R 38.28, R 38.29, R 38.30, R 38.31, R 38.32, R 38.33, R 38.34, R 38.35, R 38.36, R 38.37, R 38.38, R 38.39, R 38.40, R 38.41, R 38.42, R 38.43, R 38.44, R 38.45, R 38.46, R 38.47, R 38.48, R 38.49, R 38.50, and R 38.51 are added to the Michigan Administrative Code, and R 38.8, R 38.11 and R 38.12 of the Code are rescinded as follows:

R 38.8 Rescinded.

R 38.11 Rescinded.

R 38.12 Rescinded.

PART I. DEFINITIONS - APPLICABILITY

R 38.21 Definitions.

Rule 21. (1) As used in these rules:

(a) "Act" means 1943 PA 240, MCL 38.1.

(b) "Administrative record" means the application and related documents considered by the staff of the retirement system in reaching its determination.

(c) "APA" means 1969 PA 306, MCL 24.201.

(d) "Application" means a request for a benefit provided by the act. "Application" also includes a request to reopen a closed application and a reapplication.

(e) "Board" means the retirement board as defined in MCL 38.1h(4) of the act and composed of those members set forth in MCL 38.3 of the act.

(f) "Bona fide termination of employment" for purposes of R 38.54 means that a member terminated employment in good faith, with honesty, and without any intent to return to a position covered by the act within the same month as the individual's retirement allowance effective date.

(g) "Closed application" means a request by an individual for a benefit provided by the act that was withdrawn by the individual or otherwise never decided by the retirement system or the board.

(h) "Dependent" or "dependents," as used in MCL 38.20d of the act means all of the following:
(1) The retirant's spouse.
(2) Any unmarried child of the retirant who is considered a dependent under section 152 of the internal revenue code.
(i) "Good cause," as used in MCL 38.21 and 38.24 of the act, means the legitimate inability to file an application within 1 year after termination of the member's employment. "Good cause" does not include a person's own careless neglect or inattention to the filing requirements.
(j) "Medical advisor," as used in MCL 38.21 and 38.24 of the act, means a physician designated by the retirement system.
(k) "Permanent," as used in MCL 38.21 and 38.24 of the act, means will last throughout the lifetime of the member.
(l) "Presiding officer" means presiding officer as defined in MCL 24.279 and 24.280 of the APA.
(m) "Reasonable medical treatment" means medical treatment that does not involve significant danger to life or extraordinary suffering and that has a reasonable probability of significantly improving the condition caused by the disease or injury.
(n) "Reapplication" means a request by an individual for a benefit provided by the act that was previously decided by the staff of the retirement system or the board.
(o) "Totally incapacitated," as used in MCL 38.21 and 38.24 of the act, means the member is unable to perform the duties of his or her current position, or any other position reasonably related to the member's education, training, or experience.
(2) Terms defined in the act and the APA have the same meaning when used in these rules.

R. 38.22 Applicability of APA.
Rule 22. The APA applies to contested case hearings held under the act.

R 38.23 Applicability; construction.
Rule 23. (1) These rules govern except as otherwise provided by the act or the APA. In areas not addressed by these rules or the APA, the presiding officer in a contested case may rely on appropriate provisions of the Michigan court rules.
(2) The intent of these rules is to secure a just, prompt, efficient, and fair determination of the issues presented.

PART II. PROCEDURAL RULES

R 38.24 Request hearing; statement of facts.
Rule 24. (1) If an application is denied by the staff of the retirement system and the applicant is notified in writing that he or she has 60 days from the date stated in this notification to request a hearing, then the request for hearing shall be filed in writing with the retirement system within 60 days after the date stated in this notification.
(2) A request for a hearing shall contain all of the following:
(a) A fair and accurate statement of the facts as the party understands them.
(b) The reason or reasons supporting the party's claim.
(c) The reasons why the decision of the staff of the retirement system should be reversed.

R 38.25 Proposals for decision; exceptions.
Rule 25. (1) Unless otherwise established by the presiding officer or the board, exceptions to a proposal for decision shall be filed with the State Office of Administrative Hearings and Rules within 21days after service of the proposal for decision by the presiding officer, and replies to exceptions, if

any, shall be filed with the State Office of Administrative hearings and Rules within 14 days after the service of the exceptions.

(2) Exceptions shall clearly and concisely recite the specific findings of fact and conclusions of law, or lack thereof, to which exception is taken, along with specific references to the record that support the exception.

(3) Objections to a proposal for decision are waived if a party does not file exceptions to a proposal for decision within the time permitted by this rule.

(4) A proposal for decision is not a final decision of the board unless the board orders it.

R 38.26 Action by the board.

Rule 26. The board shall act on every proposal for decision in a public meeting. The board may do any of the following:

(a) Remand the matter to the presiding officer or other presiding officer for further action.

(b) Issue a final decision approving, rejecting, or modifying the proposal for decision.

(c) Exercise any other power of the board.

R 38.27 Clerical mistakes; correction.

Rule 27. Clerical mistakes and errors arising from omissions or commissions made by the board may be corrected by the board at any time on its own initiative or as a result of a motion filed by a party.

R 38.28 Oral argument.

Rule 28. A party shall not have oral argument before the board on any contested case matter submitted to the board unless the board specifically grants a request for oral argument.

R 38.29 Refiling an application.

Rule 29. (1) Except as provided in subrule (3) of this rule, if an individual files an application that concerns a matter that has already been considered and denied by the staff of the retirement system and a timely request for hearing was not made, then the application shall not be considered and the individual shall be notified accordingly.

(2) Except as provided in subrule (4) of this rule, if an individual files an application that concerns a matter that has already been considered and denied by the board, the application shall not be considered and the individual shall be notified accordingly.

(3) If an individual's previous application for a disability retirement, as provided for in MCL 38.21 and 38.24 of the act, is denied by the staff of the retirement system and the individual did not make a timely request for hearing, then the individual may file a reapplication only if the individual did not terminate his or her employment in a position covered by the act and either worked after the denial and before the reapplication or was off work with the approval of his or her employer.

(4) If an individual's previous application for a disability retirement, as provided for in MCL 38.21 and 38.24 of the act, is denied by the board, then the individual may only file a reapplication if the individual did not terminate his or her employment in a position covered by the act and either worked after the denial and before the reapplication or was off work with the approval of his or her employer.

R 38.30 Documentary evidence.

Rule 30. If the staff of the retirement system denies an application, and the applicant timely requests a hearing, then the staff of the retirement system shall provide a copy of its administrative record and notification to the applicant. The applicant shall have 30 days to file any additional documents that he or she wants the staff of the retirement system to consider.

R 38.31 Notarized signatures.

Rule 31. The board shall determine whether a signature shall be notarized on a form used by the retirement system. A notarized signature is presumed to represent the signature of the individual whose name it purports to be.

PART III. RETIREMENT/PENSION RULES

R 38.32 Medical advisor's opinion.

Rule 32. The opinion of an individual's treating physician shall not be given more weight than the opinion of the medical advisor with regard to an application for a disability retirement under MCL 38.21 and 38.24 of the act solely based on the relative length of time these physicians have spent examining an individual or because the medical advisor's review was based on an examination of the individual's medical records.

R 38.33 Reasonable medical treatment.

Rule 33. An individual shall pursue all reasonable medical treatment for the injury or disease that is the basis for his or her application for duty or non-duty disability as provided by MCL 38.21 and 38.24 of the act.

R 38.34 Duty disability.

Rule 34. An application for duty disability filed under MCL 38.21 of the act shall be denied if the personal injury or disease that is the basis for the application was any of the following:

(a) A personal injury or illness, which existed before becoming a member.

(b) The aggravation of a personal injury or illness, which existed before becoming a member.

(c) A personal injury or illness, which arose while the applicant was a member but was not proximately caused by the member's employment.

R 38.35 Medical examination.

Rule 35. (1) For purposes of deciding eligibility for disability retirement under MCL 38.21 and 38.24 of the act, a medical examination conducted by 1 or more medical advisors means either a personal medical examination of the member or a review of the application and medical records of the member.

(2) If an applicant for a disability retirement under MCL 38.21 or MCL 38.24 of the act fails to submit to a reasonable medical examination requested by the system, the application shall be denied.

R 38.36 Other decisions not binding.

Rule 36. The board is not bound by a determination of disability issued by any other state or federal agency or private entity when the board is determining whether a member is entitled to a disability retirement provided by MCL 38.21 or 38.24 of the act.

R 38.37 Disability application.

Rule 37. (1) An individual who seeks a duty or non-duty disability retirement allowance, as provided in MCL 38.21 and 38.24 of the act, shall do both of the following:

(a) File an application on a form provided by the retirement system, including the names and addresses of all the applicant's health care providers and the date of treatment.

(b) Execute all necessary authorizations to disclose health information which permits the retirement system, or its agents, to obtain and review all health information that relates in any way to the basis for the claimed disability. The health information shall include what was created before,

contemporaneously with, and subsequent to the date of the alleged injury or disease that is related to the medical condition.

(2) An individual shall not amend an application for duty or non-duty disability retirement filed under MCL 38.21 or 38.24 of the act after the expiration of the 30-day period in R 38.30, unless the individual demonstrates that the reason for wanting to amend the application was not known before the expiration of the 30-day period.

R 38.38 Suspension of retirement allowance.

Rule 38. The retirement allowance of a retirant shall be suspended during any time period that the retirant returns to work in a position covered by the act unless the retirement allowance resulted from a bona fide termination of employment.

R 38.39 Disability retirement.

Rule 39. (1) To receive a disability retirement under MCL 38.21 of the act, the member shall prove by a preponderance of the evidence that on or before the termination of his or her employment, he or she was totally incapacitated and that such incapacity was probably permanent.

(2) To receive a disability retirement under MCL 38.24 of the act, the member shall prove by a preponderance of the evidence that on or before the termination of his or her employment, he or she was totally incapacitated and that such incapacity was likely to be permanent.

(3) For purposes of MCL 38.21 and 38.24 of the act, the board shall not retire a member if the member can perform any job for which the member has experience, training, or education. If the board determines that a member is not mentally or physically totally incapacitated for further performance of duty or that a member's total incapacity is not probably permanent, the retirement system does not have the obligation to find employment for a member.

R 38.40 Social security estimate.

Rule 40. If a member elects the equated payment under MCL 38.20(2) of the act, the estimated social security primary insurance amount shall be based on an estimate of the age 65 social security benefit obtained by the member from the social security administration and provided by the member to the staff of the retirement system. This social security estimate shall be used to actuarially adjust the retirement allowance to provide an increased retirement allowance payable up to age 65 irrespective of when the retirant begins to draw social security. The retirement allowance shall be reduced at age 65 by the social security estimate amount the retired member provided at the time of retirement.

R 38.41 Survivor benefit; equated pension.

Rule 41. For purposes of this rule, the equated pension, as described in MCL 38.20(2) of the act, refers to the benefit before and after the retirant's attainment of age 65. If a member elects a survivor option, as provided in MCL 38.31(1) of the act, the member's retirement allowance shall be adjusted accordingly. If the member also elects to receive such a retirement allowance as an equated payment under MCL 38.20(2) of the act, then the resulting retirement allowance shall be paid until the retirant's death. Upon the retirant's death, the retirement allowance shall be adjusted to cancel the effect of electing the equated payment.

R 38.42 Service credit toward retirement.

Rule 42. (1) Under MCL 38.1i(1) of the act all of the following shall apply:

(a) Years of service are credited in accordance with the state fiscal year.

(b) The maximum service credited on the payroll end date of any state biweekly pay period is 80 hours.

(c) The maximum service credited in a fiscal year is 1.0000 which is equivalent to 2,080 hours.

(d) A maximum of 26 biweekly pay periods of 80 hours shall be credited in a fiscal year. Proportionate service credit shall be awarded for payrolls reported on a frequency other than a biweekly pay period. A part-time employee earns service credit in proportion to the hours worked within that pay period.

(e) Only regular hours are counted for service credit and overtime hours shall not count towards creditable service.

(2) An employee whose position is designated full time under legislative council operations administrative rules and determined to be full time by the staff of the retirement system, but whose full time schedule totals less than 80 hours per biweekly pay period, shall be credited with .0385 years for each full pay period of work.

R 38.43 Layoff; eligibility for purchase of buy-in credit; refund repay; resuming tax deferred payment (TDP) agreement.

Rule 43. For up to 1 calendar year after the effective date of a layoff, the individual laid off may purchase buy-in credit, repay a refund and, if returned to work, resume TDP payments on an existing agreement. If a layoff extends beyond a 1-year period, then the laid-off individual ceases to be eligible to purchase buy-in credit, repay a refund or, if returned to work, resume TDP payments on an existing agreement, unless the member demonstrates a continued employer-employee relationship as determined by the staff of the retirement system.

R 38.44 Ten-year service requirement.

Rule 44. (1) An applicant for a disability allowance provided in MCL 38.24 of the act shall meet the 10-year requirement only under either of the following conditions:

(a) If the applicant has 10 years or more of service credit in a position covered by the act.

(b) If the applicant has 10 years or more of service credit when the applicant's service credit as an employee in a position covered by the act is combined with the service credit received under MCL 38.17, 17a, 17b, 17c, 17d, 17l or 17n of the act.

(2) An applicant for a disability allowance provided in MCL 38.24 of the act shall not be allowed to use either of the following:

(a) The provisions of the reciprocal retirement act, 1961 PA 88, MCL 38.1101, to meet the 10-year requirement set forth in MCL 38.24.

(b) Service credit purchased by the applicant under MCL 38.17g, 17h, 17i, 17m or 18(2) of the act to meet the 10-year requirement in MCL 38.24.

R 38.45 Eligible domestic relations order.

Rule 45. (1) An eligible domestic relations order issued under the eligible domestic relations order act, MCL 38.1701, shall be drafted in conformity with applicable law and a true or certified copy filed with the staff of the retirement system before the effective date of the member's retirement.

(2) If the staff of the retirement system rejects an eligible domestic relations order as not in conformity with the applicable law, then a true or certified copy of an amended eligible domestic relations order that conforms with applicable law shall be filed with the staff of the retirement system before the effective date of the member's retirement.

R 38.46 Domestic relations order.

Rule 46. (1) A domestic relations order, as defined in MCL 38.1702(c), shall be drafted in conformity with applicable law and filed with the staff of the retirement system before the member's death.

(2) If the staff of the retirement system rejects a domestic relations order as not in conformity with the applicable law, then a true or certified copy of an amended domestic relations order that conforms with applicable law shall be filed with the staff of the retirement system before the member's death.

R 38.47 Duty; non-duty.

Rule 47. If a member requests a duty disability and the member has more than 10 years of credited service, then the staff of the retirement system shall review the application to determine if the member qualifies for either a duty or non-duty disability retirement allowance. If the staff of the retirement system denies the application for a duty disability, but recommends approval of the application for non-duty disability, then the board shall not consider the application for non-duty disability until after the expiration of the 60-day notice provided in R 38.24(1).

R 38.48 Payment of retirement allowance.

Rule 48. A retirement allowance provided for in MCL 38.19, 19a, 19b, 19c and 19d of the act shall not be paid for any period of time before the date that the application is filed with the board.

R 38.49 Retirement allowance; overpayment.

Rule 49. (1) If the retirement system pays a retirant or beneficiary more in a retirement allowance than he or she is entitled to receive, the retirement system shall do both of the following:

(a) Pursuant to MCL 38.41, immediately correct the error, notify the retirant or beneficiary of the correction of the error and provide the retirant or beneficiary with his or her correct retirement allowance.

(b) Not recover any overpayment to a retirant or beneficiary for those payments which the retirant or beneficiary received more than 6 years prior to the date of the notification to the retirant or beneficiary of the error by the retirement system except in each of the following situations when the retirement system shall recover the full amount of the overpayment:

(i) If the member, retirant, or beneficiary misrepresented the information provided to the retirement system and the retirement system calculated the retirement allowance based upon that incorrect information.

(ii) If the member, retirant, or beneficiary knew or should have known of the error and did not notify the retirement system of the error so that the retirement system could correct it.

(iii) If the annual retirement allowance which the retirant or beneficiary received was greater than the retirant's final average compensation.

(2) The retirement system shall recover the entire amount of the overpayment received by the retirant or beneficiary in the situations set forth in subrule (1)(b)(i), (ii) and (iii) of this rule by adjusting future payments to the retirant or beneficiary in such a manner that the actuarial equivalent of the correct benefit is paid. For purposes of determining the actuarial equivalent retirement allowance, the actuarially assumed interest rate shall be 8% with utilization of the 1983 group annuity and mortality table.

(3) Except as provided in subrule (1)(b) of this rule, depending upon which is most beneficial to the retirant or beneficiary, the retirement system shall recover the overpayment received by the retirant or beneficiary during the 6 years prior to the date of the notification of the error by doing either of the following:

(a) Allowing the retirant or beneficiary to repay the overpayment in 1 lump sum.

(b) Reducing the retirant's or beneficiary's correct monthly retirement allowance by 1 of the following:

(i) The same percentage as results from the amount of the highest monthly overpayment divided by the comparable actual monthly payment until the amount of the overpayment is recovered.

(ii) To the actuarial equivalent of the benefit calculated pursuant to MCL 38.41. For purposes of determining the actuarial equivalent, the actuarially assumed interest rate shall be 8% with utilization of the 1983 group annuity and mortality table.

R 38.50 Retirement allowance; underpayment.

Rule 50. (1) If the retirement system pays a retirant or beneficiary less in a retirement allowance than he or she is entitled to receive, then the retirement system shall do both of the following:

(a) Pursuant to MCL 38.41, immediately correct the error, notify the retirant or beneficiary of the correction of the error and provide the retirant or beneficiary with his or her correct retirement allowance.

(b) At the election of the retirant or beneficiary, pay the underpayment in a lump sum or the actuarial equivalent.

(2) For purposes of determining the actuarial equivalent, the actuarially assumed interest rate shall be 8% with utilization of the 1983 group annuity and mortality table.

PART IV. DECLARATORY RULING

R 38.51 Declaratory ruling.

Rule 51. (1) Any interested person may request a declaratory ruling from the board as provided by MCL 24.263 of the APA.

(2) A request for declaratory ruling shall consist of all of the following:

(a) Be in the form of a sworn statement.

(b) State the nature and purpose for the request.

(c) Contain a clear and concise statement of the actual state of facts upon which the ruling is requested.

(d) State the statute, rule, or order administered by the board that applies.

(e) Contain a statement establishing the relationship between the person requesting the ruling and the statute, rule, or order that applies.

(f) Contain the requested proposed ruling.

(3) An interested person who requests a declaratory ruling shall serve a copy of it upon every person referred to in the statement of facts included in the request.

(4) Within 90 days of receipt of a request for declaratory ruling that complies with this rule, the board shall respond to the request by doing 1 of the following:

(a) Issue the declaratory ruling.

(b) Deny the request for declaratory ruling.

(c) Extend the time for doing either subdivision (a) or (b) of this subrule by an additional 90 days.

ADMINISTRATIVE RULES

SOAHR 2006-046

DEPARTMENT OF LABOR AND ECONOMIC GROWTH

STATE OFFICE OF ADMINISTRATIVE HEARINGS AND RULES

STATE RETIREMENT BOARD - GENERAL HEARING RULES

Filed with the Secretary of State on May 1, 2008

These rules become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the State Office of Administrative Hearings and Rules by Executive Order 2005-1, MCL 445.2021.)

R 38.71, R 38.72, R 38.73, R 38.74, R 38.75, R 38.76, R 38.77, R 38.78, R 38.79, R 38.80, R 38.81, R 38.82, R 38.83, R 38.84, R 38.85, and R 38.86 are added to the Michigan Administrative Code, and R 38.1, R 38.2, R 38.3, R 38.4, R 38.5, R 38.6 and R 38.7 of the Code are rescinded as follows:

R 38.1 Rescinded.

R 38.2 Rescinded.

R 38.3 Rescinded.

R 38.4 Rescinded.

R 38.5 Rescinded.

R 38.6 Rescinded.

R 38.7 Rescinded.

PART I. PROCEDURAL RULES

R 38.71 Applicability.

Rule 71. (1) These rules apply to hearings held under the jurisdiction of the State Employees' Retirement Board.

(2) The terms defined in 1943 PA 240, MCL 38.1 et seq; 1969 PA 306, MCL 24.201 et seq; and R 38.21(1) have the same meaning when used in these rules.

R 38.72 Notice of hearing.

Rule 72. Notification of any hearing shall state the date, time, place, and issues involved. Notice shall be mailed by first-class mail at least 35 days before the hearing.

R 38.73 Appearance.

Rule 73. (1) If a party is represented by an attorney, the attorney shall file a written appearance.

(2) An appearance made at a hearing shall be made in person either by the individual who requested the hearing or by legal counsel.

R 38.74 Filing of documents.

Rule 74. If a document is not filed and served within the time limits established by these rules, the presiding officer or the board shall strike the document unless the individual serving the document establishes good cause as to why the document was not filed and served timely.

R 38.75 Service.

Rule 75. (1) A party shall serve all documents filed in a contested case on all other parties, the hearing coordinator of the retirement system and the presiding officer. Service shall be made in person or by first-class mail with postage fully paid and addressed to the individual to be served at the individual's last known address.

(2) The date of service shall be the date of personal service or the date that the document is placed in first-class mail.

(3) A party who files a document in a contested case hearing shall file a proof of service that establishes the document was simultaneously and properly served on all other parties.

R 38.76 Pre-hearing conference; scope.

Rule 76. (1) If a presiding officer determines that a pre-hearing conference will aid in the efficient resolution of the contested case, then the presiding officer may direct the parties or their attorneys to participate in a pre-hearing conference, either in person or by telephone, to do any of the following:

(a) State and simplify the factual and legal issues involved.

(b) Consider motions to be disposed of before hearing and other preliminary matters.

(c) Identify proposed documentary evidence and determine its authenticity, if possible.

(d) Estimate the time for hearing.

(e) Consider other matters that may aid in the resolution of the contested case.

(2) The presiding officer may provide a written summary of the items discussed to each party after the pre-hearing conference.

(3) At a pre-hearing conference, the presiding officer may direct the parties to file a hearing brief as to any of the issues involved in the action. If the parties are directed to submit hearing briefs, then the parties shall submit briefs to the presiding officer not less than 10 days before the hearing, unless a different date is set by the presiding officer.

R 38.77 Presiding officer.

Rule 77. (1) The board State Office of Administrative Hearings and Rules shall designate presiding officers in contested case proceedings.

(2) A presiding officer shall issue orders that are necessary for the fair and efficient determination of the issues presented. These include, but are not limited to, an order in response to a motion to do any of the following:

(a) Extend the time to file a closing argument.

(b) Extend the time to file exceptions and/or replies.

(c) Adjourn a hearing.

(3) A party shall comply with an order of a presiding officer unless the board determines otherwise.
(4) The board does not have subpoena power. A presiding officer shall not issue a subpoena.Neither the presiding officer nor any attorney in a contested case may issue a subpoena.

R 38.78 Adjournment or continuance of hearing.
Rule 78. A hearing shall not be adjourned or continued except upon an order of the board or the presiding officer. Unless made during a hearing, all motions and requests for an adjournment, or a continuance, shall be filed in writing and state concisely the reasons why an adjournment or continuance is necessary.

R 38.79 Hearing record.
Rule 79. A verbatim record shall be made of each hearing held. Upon request, a party may order a transcript. The requestor shall pay the cost of the transcript.

R 38.32 Stipulations.
The parties to any hearing may agree upon the facts or any portion of the facts involved in the contested case, by a written stipulation filed with the board or presiding officer, or orally during a hearing. The stipulation shall be evidence in the hearing. Parties are encouraged to agree on the facts whenever practicable.

R 38.80 Form; time for filing motion.
Rule 80. (1) A request to the board or the presiding officer for an order in a pending action shall be by motion, in writing, unless made during a hearing. The request shall state the relief or order sought, the grounds and authority on which the request is based, and be signed by the party or the party's attorney.
(2) A copy of the written motion and brief, if any, shall be served in accordance with R 38.75(1). If a motion or response is supported by affidavit, then the affidavit shall be filed and served with the motion or response.
(3) A party opposing a motion shall serve a response and any brief and supporting affidavit or affidavits within 10 14 days after service of the motion unless otherwise ordered by the board or presiding officer.
(4) The presiding officer may limit or dispense with oral arguments on motions.

R 38.81 Motion for summary disposition.
Rule 81. (1) A party may move for summary disposition on all or any part of the claim at any time. The motion shall state that the moving party is entitled to summary disposition on 1 or more of the following grounds and shall specify the grounds on which the motion is based:
(a) The petitioner has failed to state a claim upon which relief can be granted.
(b) There is no genuine issue as to a material fact, except as to the relief to be granted.
(c) The board lacks jurisdiction of the subject matter.
(d) The claim or defense is barred because it is untimely.
(e) The claim or defense is barred because of some other legal impediment or other disposition of the claim.
(2) If the motion for summary disposition is based on subrule (1)(a) of this rule, then only pleadings may be considered. A motion based on subrule (1)(b), (c), (d) or (e) of this rule shall be supported by affidavits or other documentary evidence and shall specifically identify the issues on which the moving party believes there is no genuine issue of material fact. The affidavits, together with the pleadings and documentary evidence then filed in the action, or submitted by the parties, shall be considered. If a motion is made under subrule (1)(b) of this rule and supported as provided in this rule, then an adverse

party shall, by affidavits or otherwise provided in this rule, set forth specific facts showing that there is a genuine issue for hearing. If the adverse party does not respond, then summary disposition, if appropriate, shall be recommended in a proposal for decision.

(3) A presiding officer shall issue a proposal for decision when the presiding officer recommends granting a motion for summary disposition. Any further proceedings in the contested case are stayed until the board issues its decision.rule on a motion for summary disposition in a proposal for decision.

R 38.82 Discovery.

Rule 82. (1) Discovery shall not be allowed in any contested case hearing conducted under the act or these rules except depositions may be taken upon written approval of the board where it is established that it is impractical or impossible to otherwise obtain the evidence. If the board approves the taking of a deposition, it shall be taken in conformity with the Michigan court rules.

(2) The petitioner shall serve a list of witnesses 20 days before the scheduled hearing date. The respondent shall serve a list of witnesses 10 days before the scheduled hearing date. A party shall not call as a witness a person who was not included on a witness list unless the presiding officer finds that the party has established good cause as to why the person was not included on the party's witness list.

R 38.83 Closing arguments.

Rule 83. All closing arguments shall be in writing and each party shall file them simultaneously unless otherwise agreed to by the parties or determined by the presiding officer. Deadlines for filing written closing arguments shall be established by the presiding officer.The presiding officer shall notify the parties whether written or oral closing arguments shall be scheduled and the time deadlines for such arguments.

R 38.84 Proposal for decision.

Rule 84. (1) The presiding officer shall prepare a proposal for decision within a reasonable time after the closing of the record. It shall include findings of fact, conclusions of law, and a recommended decision. The proposal for decision shall be served on each of the parties and the hearing coordinator of the retirement system.

R 38.85 Considerations of documents.

Rule 85. The presiding officer shall admit the administrative record if offered into evidence at the hearing.

R 38.86 Testimony; telephone and other electronic means.

Rule 86. A presiding officer shall not take the testimony of a witness by way of a telephone conference call or other electronic means unless all of the following occur:

(a) The party who wants to take such testimony serves a motion at least 10 days before the date of the hearing.

(b) The presiding officer concludes that it is impractical or impossible to otherwise obtain the testimony.

(c) The presiding officer concludes that the witness is not needed to appear in person so that the witness's appearance and demeanor may be observed for credibility purposes.

ADMINISTRATIVE RULES

SOAHR 2006-063

DEPARTMENT OF ENVIRONMENTAL QUALITY

WASTE AND HAZARDOUS MATERIALS DIVISION

STORAGE AND HANDLING OF GASEOUS AND LIQUEFIED HYDROGEN SYSTEMS

Filed with the Secretary of State on April 24, 2008
These rules take effect 7 days after filing with the Secretary of State

(By authority conferred on the department of environmental quality by section 3c of 1941 PA 207, MCL 29.3c, and Executive Reorganization Order No. 1998-2, MCL 29.461)

R 29.7001, R 29.7002, R 29.7010, R 29.7011, R 29.7012, R 29.7013, R 29.7014, R 29.7015, R 29.7016, R 29.7017, R 29.7018, R 29.7019, R 29.7020, R 29.7021, R 29.7022, R 29.7023, R 29.7024, R 29.7025, R 29.7026, R 29.7027, R 29.7028, R 29.7029, R 29.7030, R 29.7031, R 29.7032, R 29.7033, R 29.7034, R 29.7035, R 29.7036, R 29.7037, R 29.7038, R 29.7039, R 29.7040, R 29.7041, R 29.7042, R 29.7043, R 29.7044, R 29.7045, R 29.7046, R 29.7047, R 29.7048, R 29.7049, R 29.7050, R 29.7051, R 29.7052, R 29.7053, R 29.7054, R 29.7055, R 29.7056, R 29.7057, R 29.7058, R 29.7059, R 29.7060, R 29.7061, R 29.7062, R 29.7063, R 29.7064, R 29.7065, R 29.7066, R 29.7067, R 29.7068, R 29.7070, R 29.7071, R 29.7072, R 29.7073, R 29.7074, R 29.7075, R 29.7076, R 29.7077, R 29.7078, R 29.7079, R 29.7080, R 29.7081, R 29.7082, R 29.7083, R 29.7084, R 29.7085, R 29.7086, R 29.7087, R 29.7088, R 29.7089, R 29.7090, R 29.7091, R 29.7092, R 29.7093, R 29.7094, R 29.7095, R 29.7096, R 29.7097, R 29.7098, R 29.7099, R 29.7100, R 29.7101, R 29.7102, R 29.7103, R 29.7104, R 29.7105, R 29.7106, R 29.7107, R 29.7108, R 29.7109, R 29.7110, R 29.7111, R 29.7112, R 29.7113, R 29.7114, R 29.7115, R 29.7116, R 29.7117, R 29.7118, R 29.7119, R 29.7120, R 29.7121, R 29.7122, R 29.7123, R 29.7124, R 29.7125, R 29.7126, and R 29.7127 of the Michigan Administrative Code are added to read as follows:

PART 1. GENERAL PROVISIONS

R 29.7001 Applicability.
Rule 1. These rules apply to the operation of all gaseous and Liquefied hydrogen systems. A person shall comply with these rules, other applicable state and federal statutes, and rules and regulations promulgated under the statutes.

R 29.7002 Storage and handling of gaseous and Liquefied hydrogen; adoption of standard by reference.
Rule 2. The national fire protection association's (NFPA) Pamphlet 50A, "Standard for Gaseous Hydrogen Systems at Consumer Sites," 1999 edition and NFPA Pamphlet 50B, "Standard for Liquefied Hydrogen Systems at Consumer Sites," 1999 edition, referred to in these rules as the "code," pertaining to the storage and handling, but not transportation, of gaseous and Liquefied hydrogen, are adopted by reference as part of these rules. Copies of the adopted code are available for inspection at the office of the Department of Environmental Quality, Waste and Hazardous Materials Division, Storage Tank Unit, P.O. Box 30241, Lansing, Michigan 48909-7741, or for purchase from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269, telephone number 800-344-3555. The

cost of the code, at the time of the adoption, is $28.00 each, plus a $7.95 handling charge, per copy; or at the office of the Department of Environmental Quality, Waste and Hazardous Materials Division, Storage Tank Unit, P.O. Box 30241, Lansing, Michigan 48909-7741, for a cost, at the time of the adoption of these rules, of $35.95, per copy, plus $20.00 handling, plus shipping.

PART 2. STORAGE AND HANDLING OF GASEOUS HYDROGEN NFPA 50A

Chapter 1 General Information

R 29.7010 Chapter 1 General information.
Rule 10. Sections 1-1 to 1-1.2 of the storage and handling of gaseous and Liquefied hydrogen code are added as follows:
1-1 Scope. This standard covers the requirements for the design, siting, construction, installation, operation, maintenance, and dispensing from a gaseous hydrogen system.
Nothing in this hydrogen code shall be intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, environmental protection capability, or safety over those prescribed by this hydrogen code, if technical documentation is submitted to the department to demonstrate equivalency and the system, method, or device is approved for the intended purpose.
This code shall apply to the design and installation of compressed H_2 dispensing systems.
Exception: Dispensing to rail and aircraft.

R 29.7011 Classification.
Rule 11. Section 1-2 is reproduced from NFPA 50A as follows:
1-2 Classification. Systems are classified according to the total volume of hydrogen, including unconnected reserves, as follows:
(a) Less than 3500 scf (99 m^3), except as covered in 1-3.1
(b) From 3500 (99 m^3) to 15,000 scf (425 m^3)
(c) In excess of 15,000 scf (425 m^3)

R 29.7012 Application.
Rule 12. Section 1-3.2 is reproduced from NFPA 50A, and sections 1-3, 1-3.1, 1-3.3, 1-3.4, and 1-3.5 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
1-3 Application.
1-3.1 The application of this standard at places of public assembly shall meet the requirements of section 3-2.2(a) and the approval of the department.
1-3.2 This standard shall not apply to single systems using containers having a total H_2 content of less than 400 scf (11 m^3). Where individual systems, each having a total H_2 content of less than 400 scf (11 m^3), are located less than 5 ft (1.5 m) from each other, this standard shall apply.
1-3.3 This standard does not apply to flow-through process containers.
1-3.4 When required by the department, H_2 introduced into any system covered by this code shall have a leak detection system acceptable to the department and based on the best interest of public health, safety, and welfare and the environment.
1-3.5 Gaseous H_2 in fuel tanks on vehicles and mobile equipment shall not be included in determining the maximum allowable quantities.

R 29.7013 Retroactivity.

Rule 13. Sections 1-4 and 1-4.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
1-4 Retroactivity.
1-4.1 The provisions of this H_2 code are necessary to provide a reasonable level of protection from loss of life and property from fire and explosion. The provisions shall reflect situations and the state of the art prevalent when the H_2 code was issued. Unless otherwise noted, it is not intended that the provisions of this H_2 code be applied to facilities, equipment, structures, or installations that were existing or approved for construction or installation before the effective date of this H_2 code, except in those cases where it is determined by the department that the existing situation involves a distinct hazard to public health, safety, adjacent property, or the environment.

R 29.7014 Definitions.
Rule 14. Section 1-5 of the storage and handling of gaseous and Liquefied H_2 code is added, and Section 1-5.1 is reproduced from NFPA 50A as follows:
Definitions.
"ANSI" means the american national standards institute.
"Approved" means acceptable to the department.
"ASME" means the american society of mechanical engineers.
"Authority having jurisdiction" means the department.
"Automatic emergency shutoff valve" means a designated fail-safe automatic closing valve designed to shutoff the flow of gases or liquids that is initiated by a control system where the control system is activated by either manual or automatic means.
(f) "Bulk storage" means a single container or containers, where all containers draw down at the same time.
"Cargo transport container" means a mobile unit designed to transport gaseous or liquefied H_2.
"Cascade storage system" means storage in containers or cylinders arranged in banks where each bank acts as 1 large container. The banks are separated by switching valves to provide sequential drawdown of the banks. The bank may consist of 1 or more containers or cylinders.
(i) "Cathodic protection" means a technique to prevent the corrosion of a metal surface by making the surface the cathode of an electrochemical cell. This protection renders a metallic container or piping component negatively charged with respect to its environment. This protection shall be designed by a corrosion expert as defined by these rules.
(j) "Cathodic protection tester" means a person who can demonstrate an understanding of the principles and measurements of all common types of cathodic protection systems applicable to metal piping and container systems and who has education and experience in soil resistivity, stray current, structure-to-soil potential, and component electrical isolation measurements of metal piping and container systems. The person shall be certified as being qualified by the national association of corrosion engineers (NACE) international.
"Composite container" means a container fabricated of 2 or more materials that interact to facilitate the container design criteria.
(l) "Compression discharge pressure" means the varying pressure at the point of discharge from the compressor.
(m) "CGA" means the compressed gas association.
"Container" means a pressure vessel or cylinder used to store H_2.
"Container appurtenances" means devices connected to container openings for safety, control, or operating purposes.
"Container system" means a container or combination of containers and all attached appurtenances, valves, and piping.

"Container valve" means a valve connected directly to the container outlet.
(r) "Continuous gas detection system" means a gas detection system in which the instrument is maintained in continuous operation.
"Corrosion expert" means a person who, by reason of thorough knowledge of the physical sciences and the principals of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control of container systems. The person shall be certificated as being qualified by NACE, as a senior corrosion technologist, a cathodic protection specialist, or a corrosion specialist or be a registered engineer who has certification and licensing that includes education and experience in corrosion control.
(t) "Corrosion protection" means protecting a container system to prevent the degradation of the metal through oxidation or reactivity with its environment.
"Cylinder" means a container constructed in accordance with the United States Department of Transportation (U.S. DOT) specifications, title 49, code of federal regulations (CFR), parts 171-190.
"Department" means the department of environmental quality.
"Director" means the director of the department of environmental quality.
"Dispensing station" means an H_2 installation that dispenses H_2 from storage containers into fuel supply containers or into portable cylinders by means of a compressor, reformer, vaporizer, or pressure booster.
"Emergency shutdown device (ESD)" means a device that closes all fueling operations within the fueling facility from either local or remote locations.
"Excess flow control" means to limit or stop the flow of H_2 gas from a source of supply when there is a rupture, break, or 'open valve to atmosphere' condition that may present a hazard to personnel or the environment.
(aa) "Fail-safe" means a design feature that provides for the maintenance of safe operating conditions in the event of a malfunction of control devices or an interruption of an energy source.
(bb) "Fast fill station" means a storage and dispensing system designed to fill motor vehicle fuel tanks with compressed, gasified H_2. The vehicle fuel tank is filled by connecting to a system designed to provide a fuel fill rate above 12 scfm.
(cc) "Fixed liquid level device" means a device that indicates when the container is filled to its maximum permitted liquid filling volume.
(dd) "Flow-through process container" means a container that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process and the container is utilized to carry out or control the heating, cooling, mixing, blending, separating, metering, or chemical reaction of materials. The processing is done on a regular basis and it is the primary function of the container. A flow-through process container does not include a container that is used for the storage of materials before its introduction into the production process or for the storage of finished products or by-products from the production process or a container that is only used to recirculate materials.
(ee) "Fuel dispenser system" means all the pumps, meters, piping, hose, and controls used for the delivery of fuel.
"Fueling connector" means a mating device at the refueling station, including shutoff valves that connect the fueling dispenser hose to the vehicle fuel filling system receptacle for the transfer of liquid or vapor.
(gg) "Gallon water capacity (wc)" means the amount of water in gallons at 60 degrees Fahrenheit (15 degrees Celsius) required to fill a container.
(hh) "Gas detection system" means a grouping of 1 or more sensors capable of detecting an H_2 leak at specified concentrations and activating alarms and safety systems.

(ii) "Gaseous H_2 system" means a system in which the H_2 is delivered, stored, and discharged in the gaseous form including the piping system. The gaseous H_2 system terminates at the point where the H_2 is dispensed.

"Hydrogen (H_2)" means the simplest and lightest element in the known universe, which exists as a gas except at low cryogenic temperatures. H_2 gas is a colorless, odorless and highly flammable gas when mixed with oxygen over a wide range of concentrations. H_2 forms water when combusted, or when otherwise joined with oxygen, as within a fuel cell.

(kk) "Hydrogen code" means the storage and handling of gaseous and liquefied H_2 rules as promulgated by the department.

(ll) "Hydrogen gas vehicle (HGV) or vehicle" means a self-propelled device on land, in, on, or by which any person or property is or may be transported or drawn upon, except for a device exclusively moved by human power, and which has the capability to use H_2 gas as an engine fuel.

"Ignition source" means any item or substance capable of an energy release of type and magnitude sufficient to ignite any flammable mixture of gases or vapors that could occur at the site.

(nn) "kPa" means absolute pressure in kilo-Pascals.

(oo) "kPag" means gauge pressure in kilo-Pascals.

"Labeled" means equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the department and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with accepted or approved standards of construction and or performance.

(qq) "Listed" means equipment, materials, or services included in a list published by an organization that is acceptable to the department and concerned with evaluation of products or services, that maintains periodic inspection of production listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

(rr) "Manifolded storage system" means storage in containers arranged in banks where each bank acts as 1 large container. The banks are separated by switching valves to provide sequential drawdown of the banks. The bank may consist of 1 or more containers.

"Manual emergency shutoff valve" means a designated valve designed to shutoff flow due to a rupture in pressurized piping system.

"Maximum allowable working pressure (MAWP)" means the maximum pressure to which any component or portion of the pressure system can be subjected.

"Maximum operating pressure (MOP)" means the steady-state gauge pressure at which a part or system normally operates.

"Metal hydride storage system" means a system for the storage of H_2 gas absorbed in solid material.

"Motor fuel dispensing facility" means that portion of the property where H_2 is stored and dispensed from fixed equipment into the fuel tanks of motor vehicles, marine craft, or into approved containers, including all equipment used in connection therewith.

(xx) "NACE" means the national association of corrosion engineers, international.

(yy) "Original equipment manufacturer (OEM)" means an original equipment motor vehicle manufacturer that certifies that the motor vehicle complies with applicable federal motor vehicle safety codes.

"Partially buried container" means a container that has part of, but less than 100%, of the container surface covered with earth.

(aaa) "Point of transfer" means the point where the transfer connection is made.

(bbb) "Portable container" means a container designed to be moved readily, as distinguished from containers designed for stationary installations. Portable containers, designed for transportation with H_2,

filled to their maximum filling limit, include “cylinders,” “cargo tanks,” and “portable tanks,” all 3 of which are defined separately. Containers designed to be readily moved from 1 usage location to another, but substantially empty of product, are “portable storage containers” and are defined separately.
(ccc) “Portable storage container” means a container similar to those designed and constructed for stationary installation, designed so that it can be moved readily over the highways, substantially empty of H_2, from 1 usage location to another. Such containers either have legs or other supports attached, or are mounted on running gear, such as trailer or semitrailer chassis, with suitable supports that can be of the fold-down type, allowing them to be placed or parked in a stable position on a reasonably firm and level surface. For large-volume, limited-duration product usage, such as at construction sites and normally for 6 months or less, portable storage containers function in lieu of permanently installed stationary containers.
(ddd) “Portable tank, or skid tank” means a container of more than 1,000 lb (454 kilogram) water capacity used to transport H_2, handled as a package, that is, filled to its maximum permitted filling limit. Such containers are mounted on skids or runners and have all container appurtenances protected in such a manner that they can be safely handled as a package.
(eee) “Pressure relief device (PRD)” means a pressure or temperature activated device used to prevent pressure from rising above a specified value and thereby prevent the rupture of a normally charged pressure vessel or a cylinder due to emergency or abnormal conditions.
(fff) “Pressure vessel” means a container or other component designed in accordance with the ASME code.
(ggg) “psi” means pounds per square inch.
(hhh) “psia” means pounds per square inch, absolute.
(iii) “psig” means pounds per square inch gauge.
(jjj) “Rated pressure” means the pressure to which a component is rated provided that the MAWP is observed for temperature extremes.
(kkk) “Release” means an unexpected discharge of H_2.
(lll) “Remotely located manually activated shutdown control” means a control system that is designed to initiate shut down of the flow of gas or liquid that is manually activated from a point located some distance from the delivery system.
(mmm) “Residential fueling facility” means a listed vehicle fueling appliance used for the compression and delivery of H_2 into vehicles at a residence which includes its associated equipment and piping.
(nnn) “Service pressure” means the nominal gas pressure at a uniform gas temperature of 70 degrees Fahrenheit (21 degrees Celsius) when the equipment is properly and completely charged with gas; the nominal design pressure for which the equipment has been constructed.
(ooo) “Set pressure” means the start-to-discharge pressure for which a relief valve is set and marked.
(ppp) “Standard cubic foot per minute (scfm)” means the amount of gas flow in standard cubic feet per minute compensated for pressure and temperature.
(qqq) “Substantially empty” means a gas container of H_2 when the residual gas pressure is less than 10% of the maximum allowable working pressure of the vessel.
(rrr) “Vehicle-fueling appliance” means a self-contained listed assembly used for the compression and delivery of H_2 gas into vehicles including associated equipment and piping of the appliance.
1-5.1 NFPA official definitions.
Combustible Liquid. A liquid having a closed-cup flash point at or above 100^{o} F (37.8^{o}C) and are subdivided as follows:
(a) Class II liquids include those having a flash point at or above 100°F (37.8°C) and below 140°F (60°C).
(b) Class IIIA liquids include those having a flash point at or above 140°F (60°C) and below 200°F (93.4°C).

(c) Class IIIB liquids include those having a flash point at or above 200°F (93.4°C).

Flammable Liquid (Class I). Any liquid having a closed-cup flash point below 100°F (37.8°C) and having a vapor pressure not exceeding 40 psia (276 kPa) at 100°F (37.8°C).

Gallon. A standard U.S. gallon.

Limited-Combustible Material. A material, as defined in NFPA 220, *Standard on Types of Building Construction,* not complying with the definition of noncombustible material that, in the form in which it is used, has a potential heat value not exceeding 3500 Btu/lb (8141 kJ/kg) and complies with one of the following paragraphs (a) or (b). Materials subject to an increase in combustibility or flame spread rating, beyond the limits herein established, through the effects of age, moisture, or other atmospheric condition are considered combustible.

(a) Materials having a structural base of noncombustible material, with a surfacing not exceeding a thickness of $^1/_8$ in. (3.2 mm) that has a flame spread rating not greater than 50.

(b) Materials, in the form and thickness used, other than as described in (a), having neither a flame spread rating greater than 25 nor evidence of continued progressive combustion and of such composition that surfaces that would be exposed by cutting through the material on any plane would have neither a flame spread rating greater than 25 nor evidence of continued progressive combustion.

Noncombustible Material. A material, as defined in NFPA 220, *Standard on Types of Building Construction,* that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors when subjected to fire or heat. Materials reported as noncombustible, when tested in accordance with ASTM E 136, *Standard Method of Test for Behavior of Materials in a Vertical Tube Furnace at 750°C,* are considered noncombustible materials.

Outdoors. Location outside of any building or structure or locations under a roof, weather shelter, or canopy provided this area is not enclosed on more than two sides.

Separate Building. A detached, noncommunicating building used exclusively to house a hydrogen system.

Shall. Indicates a mandatory requirement.

Special Room. A separate enclosed area that is part of or attached to another building and is used exclusively for an H_2 system.

Standard. A document, the main text of which contains only mandatory provisions using the word "shall" to indicate requirements and which is in a form generally suitable for mandatory reference by another standard or code or for adoption into law. Nonmandatory provisions shall be located in an appendix, footnote, or fine-print note and are not to be considered a part of the requirements of a standard.

Standard Cubic Foot (scf). One cubic foot of gas at 70°F (21°C) and 14.7 psia (an absolute pressure of 101 kPa).

R 29.7015 Equivalency.

Rule 15. Sections 1-6 to 1-6.3 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:

1-6 Equivalency.

1-6.1 Nothing in this H_2 code shall be intended to prevent the use of systems, methods, or devices having equivalent or superior quality, strength, fire resistance, effectiveness, durability, environmental protection capability, or safety over those prescribed by the H_2 code, if technical documentation is submitted to the department to demonstrate equivalency and the system, method, or device is approved for the intended purpose.

1-6.2 An owner or operator may make an application for a variance of rules by applying to the department with a satisfactory explanation of why compliance is not possible. The department may

approve the variance request upon finding that the variance is based upon the best interest of public health, safety, and welfare and the environment.
1-6.3 A person aggrieved by a final decision of the department on a request for variance or an equivalency determination may appeal to the circuit court within 21 days of receiving the decision.

R 29.7016 Prohibitions.
Rule 16. Sections 1-7 to 1-7.4 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
1-7 Prohibitions.
Any H_2 storage container system or practice that is not in compliance with these rules shall be considered to be in violation of these rules.
Upon notification by the department, a person shall not deliver H_2 to a storage container system under any circumstances that are prohibited by these rules or if a container is not in compliance with these rules. Such notification may include a verbal or written communication or an affixed written notification on the H_2 system.
A person shall not tamper with, remove, or disregard written notification affixed to the storage container system.
An owner or operator shall not continue to use a storage container system that is causing a release and shall expeditiously empty the system or the component that is causing the release until the system is repaired or replaced.

R 29.7017 Installation application.
Rule 17. Sections 1-8 to 1-8.4 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
1-8 Installation application.
An application for plan review shall be submitted, on a form provided by the department, by the owner or owner's designee on behalf of the owner to the department not less than 30 days before the installation of an H_2 storage container system.
The installation application shall include all of the following information:
(a) A plot map showing all of the following within 100 feet (30.5 meters) of any portion from the container system:
(i) The location of the following:
Buildings.
Public roadways.
Railroad mainlines.
Public sidewalks.
Overhead power lines.
The proposed location of the dispensing station.
The location of property lines.
The locations of existing aboveground and underground tanks storing flammable and combustible liquids, and flammable, compressed or liquefied gases.
The location of the point of transfer in relationship to all of the following:
The container.
Buildings.
Public ways.
Outdoor places of public assembly.
Driveways.
Main line railroad track center lines.

The line of adjoining property that may be built upon.
Aboveground and underground tanks storing flammable and combustible liquids and/or flammable, compressed, or liquefied gases.
The construction material, the dimensions and the capacity of each container.
The type of container venting and pressure relief.
The compressor(s) size (psig and scfm).
Container appurtenances.
(f) A piping diagram showing sizes, valves, pressure relief and fittings, and control devices.

Upon acknowledged receipt of the plans, the department shall issue a plan review report within 30 days. If the plan review report is not issued within 30 days, the installation may be constructed according to the submitted plans and shall comply with these rules.

An applicant shall notify the department upon completion of the installation before the installation is placed into service. The department shall inspect the installation after receiving notification and shall certify the installation, if the requirements of the rules are met. If the inspection is not made within 2 working days, then the applicant may place the installation into service, or if intended to be underground, mounded, or partially underground, may cover the installation from sight, and shall notify the department, and shall submit a notarized affidavit to the department attesting to the fact that the installation complies with the installation application submitted and the applicable rules.

Upon the owner's request, all plans and specifications that are submitted to the department for review shall be returned after the department has certified the installation or within 30 working days after notification to the department of the completion of the installation. Plans and specifications may be marked "*Confidential—Do Not Copy*" at the time they are submitted.

R 29.7018 Installation application fees and annual certification.
Rule 18. Sections 1-9 to 1-9.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
1-9 Installation application fees and annual certification.

Only an owner of an H_2 container system for which an installation application is required to be submitted under section 1-8 of the H_2 code shall be required to pay fees as specified in section 5 of 1941 PA 207, MCL 29.5.

1-9.2 For the purpose of assessing fees on permanent installations, each 26,000 scf storage capacity of H_2 or increment thereof, shall be considered a container or any container filling location, as used in section 5 of 1941 PA 207, MCL 29.5.

R 29.7019 Personnel.
Rule 19. Sections 1-10 to 1-10.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Personnel.
In the interest of safety, all persons involved in handling H_2 shall be trained in the proper handling and operating procedures. This training shall be acceptable to the department.
Exception: This training is not required for a person dispensing H_2 *into a vehicle at an attended self-service facility.*

Chapter 2 Design of gaseous hydrogen systems

R 29.7020 Containers.
Rule 20. Section 2-1.3 is reproduced from NFPA 50A, and sections 2-1, 2-1.1, 2-1.2, and 2-1.4 to 2-1.8.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:

2-1 Containers.

2-1.1 H_2 containers shall comply with 1 of the following:

(a) Designed, constructed, and tested in accordance with appropriate requirements of ASME International, "*Boiler and Pressure Vessel Code*," Section VIII, "Rules for the construction of pressure vessels, " adopted by reference in section 8-1.

(b) Designed, constructed, tested, and maintained in accordance with Title 49, CFR.

(c) Metal hydride storage systems shall be listed for the application and designed in a manner that prevents the removal of the metal hydride.

(d) When allowed by the department, fully over-wrapped carbon composite containers designed to a standard acceptable to the department based on the best interest of public health, safety, and the environment.

2-1.2 Permanently installed aboveground containers shall be provided with substantial supports, constructed of noncombustible material on firm foundations of noncombustible material, and shall comply with the following subsections as applicable:

(a) Steel supports in excess of 18 inches (45.72 centimeters) in height, shall have a minimum 2-hour fire resistance rating, see figure 2-1.2.

Exception: Supports may be greater than 18 inches (45.72 centimeters) *if owner demonstrates, to the satisfaction of the department, that the container will not be exposed to a 2-hour pool fire.*

(b) If a permanently installed aboveground container is in an area that is subject to buoyant forces, provision shall be made to prevent the container, either full or empty, from floating during a rise in water level, including up to the established maximum flood stage.

(c) Horizontally installed containers shall have not more than 2 points of support longitudinally or other methods approved by the department based on the best interest of public health, safety, and welfare and the environment.

(d) Horizontally installed containers shall not be in direct contact with each other.

(e) Composite containers shall be protected from UV radiation as required in the manufacturer's specifications.

(f) Aboveground containers shall be protected by painting or other equivalent means where necessary to inhibit corrosion.

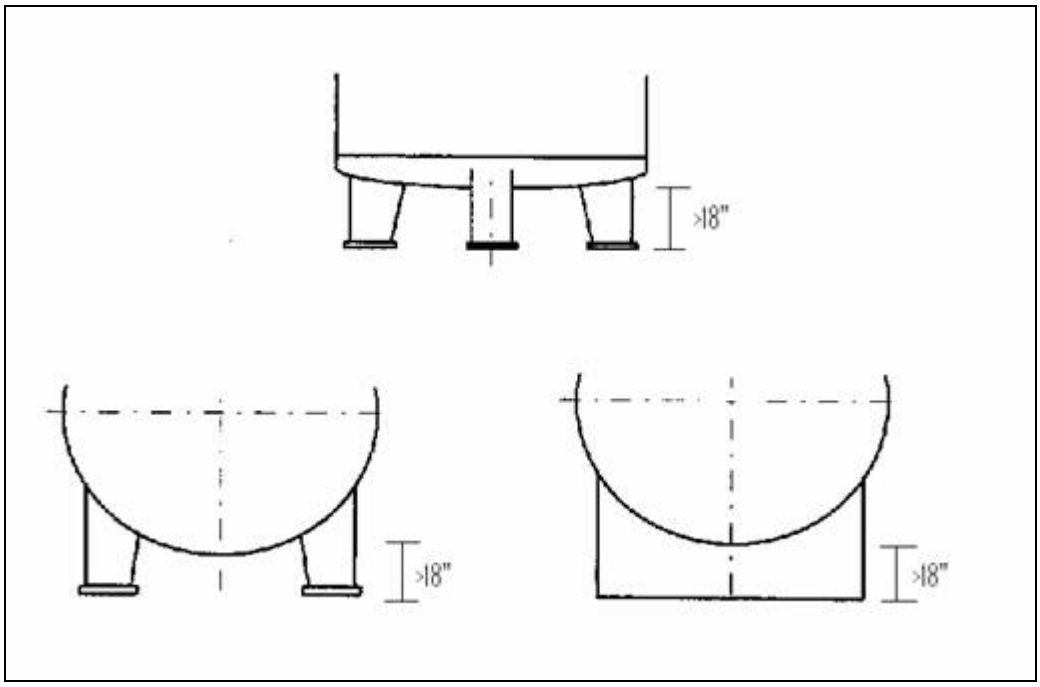
Exception: Composite containers shall not be painted without prior permission from the container manufacturer.

(g) Welding or brazing for the repair or alteration of an ASME pressure vessel shall comply with the standard adopted in section 8-1.2.1.

(h) Other welding or brazing shall be permitted only on saddle plates, lugs, or brackets which are attached to the pressure vessel by the pressure vessel manufacturer.

(i) The exchange or interchange of pressure vessel appurtenances intended for the same purpose shall not be considered a repair or alteration and appurtenances must comply with these rules.

Figure 2-1.2



Each portable container shall be legibly marked with the name hydrogen in accordance with ANSI/CGA C-4, *Method of Marking Portable Compressed Gas Containers to Identify the Material Contained*. Each manifold hydrogen supply unit shall be legibly marked with the name hydrogen or a legend such as "This unit contains hydrogen."

An owner or operator that has had a container subjected to heat exposure due to fire shall remove the container from service, unless the owner or operator provides documentation of recertification in accordance with section 2-1.1, to the department substantiating container integrity.

2-1.5 Guard posts or other approved means shall be provided to protect a container system subject to vehicular damage. When guard posts are installed, all of the following design specifications shall be met:

(a) Guard posts shall be constructed of steel not less than 4 inches (10.16 centimeters) in diameter and shall be filled with concrete.

(b) Guard posts shall be spaced not more than 4 feet (1.2 meters) on center.

(c) Guard posts shall be set not less than 4 feet (1.2 meters) deep in a concrete footing that is not less than 15 inches (38.1 centimeters) in diameter.

(d) Guard posts shall be not less than 4 feet (1.2 meters) in height above grade.

(e) Other means as approved by the department based on the best interests of public health, safety, and welfare and the environment.

2-1.6 Physical protection. Containers, piping, valves, pressure-relief devices, regulating equipment, and other appurtenances shall be protected against physical damage and tampering.

Portable containers subject to shifting or upset shall be secured. Nesting may be used to secure portable containers.

Underground containers. Underground containers for the storage of gaseous H_2 shall be in accordance with this subsection.

Construction. Storage containers for gaseous H_2 shall be designed and constructed in accordance with Section VIII of ASME International, "*Boiler and Pressure Vessel Code,"* adopted by reference in section 8-1, and shall be vacuum-jacketed in accordance with section 2-1.10.1.1.

Corrosion Protection. The underground container shall be protected by an engineered corrosion protection system designed by a corrosion expert. If cathodic protection is used the maintenance schedule shall meet the requirements of section 5-4.

R 29.7021 Pressure relief devices.
Rule 21. Section 2-2.3 is reproduced from NFPA 50A, and sections 2-2, 2-2.1, 2-2.2, and 2-2.4 to 2-2.7.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-2 Pressure relief devices.
2-2.1 H_2 containers shall be protected from credible overpressure scenarios by a relief device installed in accordance with the ASME International, "*Boiler Pressure Vessel Code*," section VIII division 1 sections UG 125 through 137, adopted by reference in section 8-1. When all credible overpressure sources are external to the container, the relief device(s) need not be installed directly on the container. In such cases, the relief devices may be installed in the piping between the container and the source(s) of overpressure and a block valve may be installed between the relief device(s) and container, provided the source of overpressure is blocked from the container.
2-2.1.1 Fully over-wrapped carbon composite containers shall be protected by thermally activated pressure relief devices acceptable to the department based on the best interests of public health, safety, welfare and the environment.
2-2.2 Pressure relief devices, when installed, shall be arranged to discharge upward and unobstructed to the open air in such a manner as to prevent any impingement of escaping gas upon the container, adjacent structures, or personnel. The vent and piping system from relief device(s) shall be designed and installed in accordance with CGA G-5.5.
2-2.3 Pressure relief devices or vent piping shall be designed or located so that moisture cannot collect and freeze in a manner that would interfere with proper operation of the device.
2-2.4 Pressure relief valves for gaseous H_2 service shall not be fitted with manual relief (lifting devices).
2-2.5 Pressure relief valves for gaseous H_2 systems, if externally adjustable, shall be provided with a means for sealing the adjustment to prevent tampering.
2-2.5.1 If at any time it is necessary to break such a seal, the valve shall be removed from service until it has been reset and sealed in accordance with design, certification, and installation code specified in section 2-2.1.
2-2.6 Pressure relief valves shall be tested at least every 5 years.
Exception: Non-ASME relief valves used for blocked-in portions of piping as thermal relief valves will not be tested.
2-2.7 Excess flow control shall be provided for pressurized H_2 piping systems above 15 psig when system design allows their application to add a significant measure of safety for break, rupture, or open valve (to atmosphere) conditions.
2-2.7.1 The location of excess flow control shall be as specified as in either of the following situations:
(a) Where piping originates from a source located in a room or area, the excess flow control shall be located within the same room or area.
(b) Where piping originates from a bulk source, the excess flow control shall be as close to the bulk source as possible.
Exception: The above requirements shall not apply to piping for inlet connections designed to prevent backflow, piping pressure relief devices, or systems containing 450 scf of H_2 *gas or less.*

R 29.7022 Piping, tubing, and fittings.
Rule 22. Sections 2-3.1 is reproduced from NFPA 50A, and sections 2-3.1.1, 2-3.1.2, and 2-3.2 to 2-3.13 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-3 Piping, tubing, and fittings.

2-3.1 Piping, tubing, and fittings shall be suitable for H_2 service and for the pressures and temperatures involved. Cast-iron pipe and fittings shall not be used.
2-3.1.1 A piping system shall be substantially supported and protected against physical damage and excessive stresses arising from settlement, vibration, expansion, or contraction. Supports for aboveground piping shall be constructed of noncombustible material.
2-3.1.2 Aboveground piping systems shall be protected from corrosion in compliance with recognized standards. Underground piping systems shall be in compliance with section 5-4.
2-3.2 Material specifications and thickness requirements for piping and tubing shall conform to ASME B31.3, "*Process Piping*," adopted by reference in section 8-1.
2-3.3 Brazing materials shall have a melting point above 1,000 degrees Fahrenheit (538 degrees Celsius). Flanged connection shall use a gasket that is suitable for H_2. When making joints in piping and tubing, thread sealants, when used, shall be suitable for H_2 service and shall be applied to male pipe threads prior to assembly.
2-3.4 Aboveground piping systems shall be marked in accordance with the following:
(a) Marking shall include the name of the gas and direction of flow arrow.
(b) Marking for piping systems shall be provided at the following locations:
(i) At each critical process control valve.
(ii) At wall, floor, or ceiling penetrations.
(iii) At each change in direction.
(iv) At a minimum of every 20 feet (6.1 meters) or fraction thereof throughout the piping run.
2-3.5 Threaded or flanged connections shall not be used in areas other than outdoors.
2-3.6 Underground piping shall be installed on a bedding of at least 6 inches (15.24 centimeters) of well-compacted backfill material.
2-3.7 In areas subject to vehicle traffic, the pipe trench shall be of sufficient depth to permit a cover of not less than 18 inches (45.72 centimeters) of well compacted backfill material and pavement.
Exception 1: In paved areas where a minimum of 8 inches (20.32 centimeters) of asphalt paving is used, the depth of the backfill between the topmost tier of piping and the paving may be reduced to not less than 8 inches (20.32 centimeters).
Exception 2: In paved areas where a minimum of 6 inches (15.24 centimeters) of reinforced concrete paving is used, the depth of backfill between the topmost tier of the piping and the paving may be reduced to not less than 4 inches (10.16 centimeters).
2-3.8 In areas not subject to vehicle traffic, the pipe trench shall be of sufficient depth to permit 6 inches *(15.24 centimeters)* each of bedding and cover of well-compacted backfill material. A greater burial depth shall be provided when required by the manufacturer's instructions.
2-3.9 Piping within the same trench shall be separated by more than 3 times the diameter of the larger adjacent pipe.
2-3.10 Piping to equipment shall be provided with an accessible, manual shutoff valve.
2-3.11 Pipe, tubing, fittings, and other piping components shall be capable of withstanding a hydrostatic test of at least 3 times the rated service pressure without structural failure as documented by the manufacturer.
2-3.12 All natural gas piping shall be installed in accordance with R 29.4601 et seq.
2-3.13 All liquefied petroleum gas piping shall be installed in accordance with R 29.4001 et seq.

R 29.7023 Equipment assembly.
Rule 23. Sections 2-4 to 2-4.6 are reproduced from NFPA 50A, and sections 2-4.7 to 2-4.10 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-4 Equipment assembly.

2-4.1 Valves, gauges, regulators, and other accessories shall be recommended for H_2 service by the manufacturer or the H_2 supplier.
2-4.2 Installation of H_2 systems shall be supervised by personnel familiar with proper practices with reference to their construction and use.
2-4.3 Storage containers, piping, valves, regulating equipment, and other accessories shall be accessible and shall be protected against physical damage and against tampering by the general public.
2-4.4 Cabinets or housings containing H_2 control or operating equipment shall be ventilated to minimize accumulation of H_2.
2-4.5 Each mobile H_2 supply unit used as part of an H_2 system shall be secured to prevent movement.
2-4.6 Mobile H_2 supply units shall be electrically bonded to the system before discharging H_2.
2-4.7 Emergency shutoff valves shall be approved and shall incorporate all of the following means of closing:
(a) Automatic shutoff through thermal (fire) actuation. Where fusible elements are used, they shall have a melting point not exceeding 250 degrees Fahrenheit (121 degrees Celsius).
(b) Manual shutoff from a remote location.
(c) Manual shutoff at the installed location.
2-4.8 The fill line, when it is independent of the withdraw line on a storage container, shall be equipped with a backflow check valve located as close as practical to the container to prevent discharge of H_2 from the container in case of the rupture of the line, hose, or fittings.
Where excess-flow check valves are used, the closing flow shall be greater than the maximum system design flow rate and less than the flow rating of the piping system that results from a complete line failure between the excess-flow check valve and the equipment downstream of the excess-flow check valve.
2-4.10 Gas piping from an outdoor compressor or storage system into a building shall be provided with shutoff valves located outside the building. The shutoff valves shall be readily accessible and as close as practical to the building. Each valve shall be permanently identified.

R 29.7024 Marking.
Rule 24. Sections 2-5 to 2-5.4 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-5 Marking. Gaseous H_2 containers and systems shall be marked in accordance with this section.
2-5.1 Identification of contents. Each container shall be marked as follows:
"GASEOUS HYDROGEN - FLAMMABLE GAS"
in letters that are not less than 3 inches (76 millimeters) in height.
Container specification. Stationary containers shall be marked with the manufacturing specification and maximum allowable working pressure on a permanent nameplate in accordance with the standard to which the container was manufactured.
Portable containers. Portable containers shall be marked in accordance with CGA C-7, "*Guide to the Preparation of Precautionary Labeling and Marking of Compressed Gas Containers*," adopted by reference in section 8-1.
Stationary containers. Stationary containers shall be marked in accordance with NFPA 704, "*Standard Systems for the Identification of the Hazards of Materials for Emergency Response*," adopted by reference in section 8-1.

R 29.7025 Testing.
Rule 25. Section 2-6 is reproduced from NFPA 50A, and section 2-6.1 of the storage and handling of gaseous and Liquefied H_2 code is added as follows:

2-6 Testing. After installation, all piping, tubing, and fittings shall be tested and proved H_2 gas-tight at maximum operating pressure.
2-6.1 Containers, if out of service in excess of 1 year, shall be inspected and tested as outlined in section 2-6. The pressure relief devices shall be checked to determine if they are operable and properly set.

R 29.7026 Approval.
Rule 26. Sections 2-7 and 2-7.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-7 Approval.
Systems and all system components shall be listed or approved, including, but not limited to all of the following:
Container.
Pressure relief device, including a pressure relief valve.
Pressure gauge.
Pressure regulator.
Valve.
Hose and hose connection.
Vehicle fueling connection.
Electrical equipment related to the H_2 system.
Dispenser.
Emergency shutoff valves.
(k) Metal hydride storage.
(l) Gas detection equipment and alarms.
(m) H_2 generators.
(n) Pumps or compressor.
(o) Stationary engine fuel system.

R 29.7027 Pressure gauges.
Rule 27. Section 2-8 of the storage and handling of gaseous and Liquefied H_2 code is added as follows:
2-8 Pressure gauges. A pressure gauge, if provided, shall be capable of reading at least 1.2 times the system MAWP.

R 29.7028 Pressure regulators.
Rule 28. Sections 2-9 to 2-9.3 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-9 Pressure regulators.
2-9.1 A pressure regulator inlet and each chamber shall be designed for its service pressure with a safety factor of at least 3.
Pressure chambers shall provide for overpressure relief, if required.
2-9.3 Regulators shall be designed, installed, or protected so that their operation is not affected by freezing rain, sleet, snow, ice, mud, insects, or debris. Regulator protection may be integral with the regulator.

R 29.7029 Valves.
Rule 29. Sections 2-10 to 2-10.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Valves.

2-10.1 Shutoff valves shall have a rated service pressure not less than the rated service pressure of the entire system and shall be capable of withstanding a hydrostatic test of at least 3 times the rated service pressure without rupture.
2-10.1.1 Leakage shall not occur when tested at least 1.1 times the rated service pressure, using an inert gas compatible with industry practices.
Valves of a design that allows the valve stem to be removed without removal of the complete valve bonnet or without disassembly of the valve body shall not be used.

R 29.7030 Hose and hose connections.
Rule 30. Sections 2-11 to 2-11.6 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Hose and hose connections.
Hose shall be constructed of or lined with materials that are resistant to corrosion and compatible with H_2.
2-11.2 Hose, metallic hose, flexible metal hose, tubing, and their connections shall be designed for the most severe pressures and temperatures expected under normal operating conditions with a burst pressure of at least 3 times the service pressure.
2-11.3 Prior to use, hose assemblies shall be tested by the manufacturer or its designated representative at a pressure at least 1.1 times the service pressure.
2-11.4 Hose and metallic hose shall be distinctly marked by the manufacturer either by the manufacturer's permanently attached tag or by distinct markings indicating the manufacturer's name or trademark, applicable service identifier and design pressure.
The use of hose in an installation shall be limited to only the following applications:
Vehicle fueling hose.
Inlet connection to compression equipment.
Section of metallic hose not exceeding 36 inches in length in the pipeline to provide flexibility where necessary.
2-11.6 Each section shall be so installed that it is protected against mechanical damage and is readily visible for inspection.

R 29.7031 Vehicle fueling connection.
Rule 31. Sections 2-12 to 2-12.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-12 Vehicle fueling connection.
2-12.1 Fueling receptacles and nozzles for gaseous H_2 service shall be listed or approved in accordance with a standard acceptable to the department and based on the best interest of public health, safety, and welfare and the environment.
The use of adapters shall be prohibited.

R 29.7032 Temporary installations.
Rule 32. Sections 2-13 and 2-13.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-13 Temporary installations.
2-13.1 ASME or U.S. DOT containers that are used as portable storage containers, (see definition of portable container in section 1-5), for temporary, less than 6 months at any given location, stationary service shall comply with the following:
If mounted on legs or supports, then such supports shall be of steel and either shall be welded to the container by the manufacturer at the time of fabrication or shall be attached to lugs that have been so

welded to the container. The legs or supports or the lugs for the attachment of these legs or supports shall be secured to the container in accordance with the code or rule under which the container was designed and built to withstand loading in any direction equal to twice the weight of the empty container and attachments.
If the container is mounted on a trailer or semi-trailer running gear so that the unit can be moved by a conventional over-the-road tractor, then attachment to the vehicle, or attachments to the container to make it a vehicle, shall comply with the appropriate U.S. DOT requirements for cargo tank service. The unit also shall comply with applicable state and U.S. DOT motor carrier regulations and shall be approved by the department.

Chapter 3 Location of gaseous hydrogen systems

R 29.7033 General requirements.
Rule 33. Sections 3-1.1, and 3-1.4 are reproduced from NFPA 50A, and sections 3-1.2, 3-1.3, and 3-1.5 to 3-1.10 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
3-1 General requirements.
3-1.1 The system shall be located so that it is accessible to delivery equipment and to authorized personnel. Roadways or other means of access for emergency equipment, such as fire department apparatus, shall be provided.
Above ground systems shall be located either at grade or above grade.
3-1.3 Aboveground systems shall not be located beneath or where exposed to failure of the following:
(a) Electric power lines as follows:
(i) Not less than 50 feet (15.24 meters) horizontally from the vertical plane below the nearest overhead wire of an electric trolley, train, or bus line.
(ii) Not less than 5 feet (1.52 meters) horizontally from the vertical plane below the nearest overhead electrical wire.
(b) Piping containing all classes of flammable or combustible liquids, see definition in Section 1-5.
(c) Piping containing oxidizing materials.
Systems within 50 feet (15.24 meters) of aboveground storage of all classes of flammable and combustible liquids shall be located on ground higher than such storage, except where dikes, diversion curbs, grading, or separating solid walls are used to prevent accumulation of these liquids under the system.
Underground systems shall be located underground, mounded, or partially buried and outside of any buildings. Buildings shall not be constructed over any underground, mounded, or partially buried container. Sides of adjacent containers shall be separated by not less than 3 feet (1 meter) unless approved by the department.
(a) Excavation for underground, mounded, or partially buried containers shall be made with due care to avoid damage to an existing structure or its foundation. Containers shall not be installed where loads from adjacent structures may be transmitted to the container. A structure or foundation of a structure on the same property shall not be erected or constructed within 10 feet (3.1 meters) of any point on the container surface, unless the footings extend to the bottom of the container. A container shall not be installed less than 10 feet (3.1 meters) from the nearest wall of any basement, pit, or property line.
All underground containers shall be set on firm foundation and surrounded with 6 inches (15.24 centimeters) minimum of noncorrosive inert material such as clean sand or pea gravel.
Underground or mounded containers shall be covered with not less than 2 feet (0.6 meter) of earth or with not less than 1 foot (30.48 centimeters) of earth on top of which shall be placed a reinforced concrete slab not less than 4 inches (10.16 centimeters) thick. If containers are likely to be subjected to

traffic, they shall be protected against damage from vehicles passing over them by at least 3 feet (1 meter) of earth cover plus 6 inches (15.24 centimeters) of reinforced concrete. When reinforced concrete paving is used as part of the protection, it shall extend at least 1 foot (30.48 centimeters) horizontally beyond the outline of the container in all directions

Containers installed in an area subject to flooding, high water table, or other buoyant forces shall be safeguarded from movement by anchoring or other means acceptable to the department based on the best interests of public health, safety, and welfare and the environment.

Aboveground gaseous H_2 systems shall be fenced and posted to prevent entrance by unauthorized personnel.

Exception: Gaseous H_2 *dispensers may be located outside the fence.*

Underground installations shall be deemed to provide engineered protection from overhead power lines.

R 29.7034 Specific requirements.

Rule 34. Sections 3-2.1, 3-2.4, 3-2.5, and table 3-2.1 are reproduced from NFPA 50A, and table 3-2.2, sections 3-2.2, 3-2.3 and 3-2.6 to 3-2.9 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:

3-2 Specific requirements.

3-2.1 The location of a system, as determined by the maximum total contained volume of H_2, shall be in the order of preference as indicated by Roman numerals in table 3-2.1.

Table 3-2.1
Preferred Locations of Gaseous Hydrogen Systems

Nature of Location	Size of Hydrogen System		
	Less than 3500 scf (99 m^3)	3500 scf to 15,000 scf (99 m^3 to 425 m^3)	In Excess of 15,000 scf (425 m^3)
Outdoors	I	I	I
In a separate building	II	II	II
In a special room	III	III	Not permitted
Inside buildings not in a special room or exposed to other occupancies	IV	Not permitted	Not permitted

3-2.2 The minimum distance in feet from an H_2 system of indicated capacity located either outdoors, in separate buildings, or in special rooms to any specified outdoor exposure shall be in accordance with table 3-2.2. The distances in numbers 1, 3 to 10, and 14 inclusive in table 3-2.2 shall not apply where protective structures having a minimum fire resistance rating of 2 hours are located between the system and the exposure.

(a) An aboveground H_2 storage container system shall be erected per table 3-2.2, but not less than 50 feet (22.9 meters), from any of the following:

A school.

A church.

A hospital.

A theater.

Assembly occupancy for 50 or more persons.

Exception: The restrictions in section 3-2.2(a) shall not apply to an aboveground H_2 system used exclusively for stationary power generation.

Table 3-2.2
Minimum Distance from Outdoor Gaseous Hydrogen Systems to Exposures

	Total Gaseous Hydrogen Storage		
Type of Outdoor Exposure	Less than 3500 scf (99 m^3) Feet (meter)	3500 scf to 15,000 scf (99 m^3 to 425 m^3) Feet (meter)	In excess of 15,000 scf (425 m^3) Feet (meter)
1. Building or structure (a) Wall(s) adjacent to system constructed of noncombustible or limited-combustible materials (1) Sprinklered building or structure or unsprinklered building or structure having noncombustible contents	0[a] (0)	5[a] (1.5)	5[a] (1.5)
(2) Unsprinklered building or structure with combustible contents Adjacent wall(s) with fire resistance rating less than 2 hours[b]	0[c] (0)	10 (3.1)	25[d] (7.6)
Adjacent wall(s) with fire resistance rating of 2 hours or greater[b]	0 (0)	5 (1.5)	5 (1.5)
(b) Wall(s) adjacent to system constructed of other than noncombustible or limited-combustible materials	10 (3.1)	25 (7.6)	50[d] (15.2)
2. Wall openings (a) Not above any part of a system	10 (3.1)	10 (3.1)	10 (3.1)
(b) Above any part of a system	25 (7.6)	25 (7.6)	25 (7.6)
3. All classes of flammable and combustible liquids above ground (a) 0-1000 gal (3785L)	10 (3.1)	25 (7.6)	25 (7.6)
(b) In excess of 1000 gal (3785L)	25 (7.6)	50 (15.2)	50 (15.2)
4. All classes of flammable and combustible liquids below ground 0-100 gal (3785L)[e] (a) Tank	10 (3.1)	10 (3.1)	10 (3.1)
(b) Vent or fill opening of tank	25 (7.6)	25 (7.6)	25 (7.6)
5. All classes of flammable and combustible liquids below ground – in excess of 1000 gal (3785L)[e] (a) Tank	20 (6.1)	20 (6.1)	20 (6.1)
(b) Vent of fill opening of tank	25 (7.6)	25 (7.6)	25 (7.6)
6. Flammable gas storage (other than			

H_2), either high pressure or low pressure (a) 0-15,000 scf (255 m^e) capacity	10 (3.1)	25 (7.6)	25 (7.6)
(b) In excess of 15,000 scf (255 m^e) capacity	25 (7.6)	50 (15.2)	50 (15.2)
7. Oxygen storage (a) 20,000 scf (566 m^e) or less	Refer to NFPA 51, *Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes*		
(b) More than 20,000 scf (566 m^e)	Refer to NFPA 55, *Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks*		
8. Fast-burning solids such as ordinary lumber, excelsior, or paper	50 (15.2)	50 (15.2)	50 (15.2)
9. Slow-burning solids such as heavy timber or coal	25 (7.6)	25 (7.6)	25 (7.6)
10. Open flames and welding	25 (7.6)	25 (7.6)	25 (7.6)
11. Air compressor intakes or inlets to ventilating or air-conditioning equipment	50 (15.2)	50 (15.2)	50 (15.2)
12. Places of public assembly less than 50 people	25 (7.6)	50 (15.2)	50 (15.2)
13 Public sidewalks and parked vehicles	15 (4.6)	15 (4.6)	15 (4.6)
14 Line of adjoining property that can be built upon	5 (1.5)	5 (1.5)	5 (1.5)
15. Flammable/Combustible liquid dispenser	*10 (3.1)*	*10 (3.1)*	*10 (3.1)*
16. Public Way, driveway	*15 (4.6)*	*15 (4.6)*	*15 (4.6)*
17. Railroad	*50 (15.2)*	*50 (15.2)*	*50 (15.2)*
[a]Portions of wall less than 10 ft (3m) (measured horizontally) from any part of a system shall have a fire resistance rating of at least ½ hour. [b]Exclusive of windows and doors (see number 2 of Table 3-2.2). [c]Portions of walls less than 10 ft (3m) (measured horizontally) from any part of a system shall have a fire resistance rating of at least 1 hour. [d]But not less than 1/2 the height of adjacent wall of building or structure. [e]Distances can be reduced to 15 ft (4.5m) for Class IIIB combustible liquids.			

3-2.2.1 Loose or piled combustible material and weeds and long dry grass shall not be within 10 feet (3.1 meters) of any system.

Roof top storage.

Construction of the building/roof that carries the load of the storage tank must carry a minimum 1-hour fire rating.

System must be securely mounted to roof.

System must be located to allow for inspection of the system acceptable to the department based on the best interest of public health, safety, and welfare and the environment.

3-2.3 Unloading connections on delivery equipment shall not be positioned closer to any of the exposures cited in table 3-2.2 than the distances given for the storage system.
(a) H_2 transfer between cargo transport vehicle and stationary container systems (single or multiple containers utilizing a common or manifolded transfer line), shall comply with all of the following:
(i) Owners and operators shall ensure that fixed piping is used between the container and master shutoff and check valves. The piping and manifolds shall be secured to the container frame. Flexible hoses are only permitted between the check valve and the cargo vehicle unloading connection.
(ii) Emergency shutoff valves required in this section shall be tested annually for proper operation. The results of the tests shall be documented.
(iii) All installations shall have at least 1 clearly identified and easily accessible manually operated remote emergency shutoff device. Within 1 year after the effective date of these rules, existing installations shall have at least 1 clearly identified and easily accessible manually operated remote emergency shutoff device. The emergency shutoff device shall be located not less than 20 feet (6.1 meters) nor more than 100 feet (30.5 meters) in the path of egress from the emergency shutoff valve and not less than 20 feet (6.1 meters) from the container system.
(iv) During transfer of H_2 to and from cargo vehicles, the hand or emergency brake of the vehicle shall be set, and chock blocks shall be used to prevent rolling of the vehicle.
(v) Transfer systems shall be capable of depressurizing to facilitate disconnection. Bleed connections shall lead to a safe point of discharge.
(vi) Cargo vehicle shall be equipped with air-brake interlock in front of the unloading connection to protect against drive-away.
(b) The delivery vehicle shall be located so that all parts of the vehicle are on the premises when delivery is made. Check valves shall be located as close to the container as practical.
(i) Sources of ignition shall not be permitted in the unloading area while transfer is in progress.
3-2.4 H_2 systems of less than 3500 scf (99 m^3), where located inside buildings and exposed to other occupancies, shall be situated in the building so that the system will be as follows:
(a) In an adequately ventilated area as in 4-2.2.
(b) 20 feet (6.1 meters) from all classes of flammable and combustible liquids, oxidizing gases, and readily combustible materials, such as excelsior and paper.
(c) 25 feet (7.6 meters) from open flames, ordinary electrical equipment, or other sources of ignition .
(d) 50 feet (15.24 meters) from intakes of ventilation or air-conditioning equipment and air compressors.
(e) 50 feet (15.24 meters) from other flammable gas storage.
(f) Protected against damage or injury due to falling objects or working activity in the area.
More than one system of 3500 scf (99 cubic meters) or less shall be permitted to be installed in the same room, provided the systems are separated by at least 50 feet (15.24 meters) or where a masonry structure having a minimum fire resistance rating of 2 hours is located between the systems. Each such system shall meet all of the requirements of this section.
Exception: The separation distance between multiple systems of 3500 scf (99 cubic meters) or less shall be permitted to be reduced to 25 feet (7.6 meters) in buildings where the occupancy between storage areas is free of combustible materials and protected with a sprinkler system designed for Ordinary Hazard, Group 1 occupancies or Light Hazard occupancies in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems.
3-2.6 An owner and operator shall ensure that a container system, which is underground, mounded, or partially underground, is protected from corrosion by 1 of the following:
(a) The approved container system is cathodically protected by all the following requirements:

(i) The approved container system is coated with a suitable dielectric material approved by the department.
(ii) Factory-installed or field installed cathodic protection systems are designed by a corrosion expert or in accordance with the NACE recommended practice RP0285 entitled "*Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*," or impressed current systems are designed to allow a determination of current operating status as required in section 5.4-1 of the H_2 code.
(iii) Cathodic protection systems are operated and maintained in accordance with the provisions of section 5.4-1 of the H_2 code.
(b) The container is made of nonmetallic construction or corrosion-resistant, such as fiberglass or a composite.
(c) Or other means acceptable to the department and based on the best interest of public health, safety, and welfare and the environment.
3-2.7 Out-of-service aboveground containers.
Containers that are no longer in service for a period of 12 months shall be closed. To close the aboveground container, the owner or operator shall empty the container, purge it with an inert gas and safeguard it against tampering. Piping that is removed from service shall be purged with nitrogen and capped or removed.
3-2.7.2 Each container that is to be reused at the original location or a new location shall be purged with an inert gas and be in compliance with all the requirements for the installation of a new container, and shall be recertified by the manufacturer or authorized representative, and tested in accordance with the container's design specifications or be pressure tested with an inert gas or H_2 at 1.1 times the MAWP for not less than 10 minutes. Piping that is to be reused shall comply with all the requirements for the installation of new piping and shall be tested in compliance with section 3-2.9 of this code prior to being brought back into service.
3-2.8 Out-of-service underground, mounded, and partially buried containers.
3-2.8.1 Containers that are no longer used to store H_2 and are not intended to be brought back into service shall be permanently closed. To permanently close the container, the container shall be emptied and purged with an inert gas to render the container free of H_2, and then the container shall be removed from the ground. When a structure above or near the container prevents removal, the container shall be emptied and purged with an inert gas to render the container free of H_2, then the container shall be filled with an inert solid material. Piping that is permanently removed from service shall be purged with an inert gas and capped or removed.
3-2.8.2 Containers may be rendered temporarily out-of-service only when it is intended they be brought back into service at a later date. To temporarily close a container, all of the following requirements shall be met:
(a) The container shall be emptied and purged with an inert gas.
(b) Corrosion protection for the container and all underground piping shall be maintained in compliance with section 5-4.1 of this code.
(c) The vent line shall remain functional.
(d) The container shall be secured against tampering.
(e) Piping that is temporarily removed from service shall be purged with an inert gas and capped.
3-2.8.2.1 Each container that is temporarily out of service for greater than 12 months shall be pressure tested with an inert gas at 1.1 times the MAWP for not less than 10 minutes prior to being brought into service. Temporarily out of service piping shall be tested in compliance with section 3-2.9 of this code prior to being brought back into service.
3-2.9 Testing. After installation, prior to being placed into service, all container connections and all field-erected piping, tubing, hose, and hose assemblies shall be tested and proved H_2 gas-tight for the

rated pressure, volume, and temperature of the gas transported by an approved method as outlined in ASME B31.3, *"Process Piping,"* adopted by reference in section 8-1, or the following:
(a) Perform a pressure test at 1.1 times MAWP, a minimum of 10 minutes.
(b) During pressure test, check for pressure decay. If leakage is detected, use leak detection fluid to find local leaks.
Energize the piping with H_2 at the MOP, and check for local leaks with a "sonic tester," "sniffer," or method acceptable to the department based on the best interests of public health, safety, welfare and the environment.
If the test "fails" the requirements in subsections (a), (b), or (c) of this section, the system must be purged with an inert gas, repaired, and subsections (a), (b), and (c) of this section shall be repeated until the test "passes."

R 29.7035 Vaults for aboveground containers.
Rule 35. Sections 3-3 to 3-3.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Vaults for aboveground containers. Vaults may be installed aboveground, underground or partially buried.
3-3.1 General. Aboveground containers may be installed in vaults that meet the requirements of section 3-3. Except as modified by the provisions of section 3-3, vaults shall meet all other applicable provisions of these rules.
Vault design and construction. Vaults shall be designed and constructed to meet the following requirements:
The walls and floor of the vault shall be constructed of reinforced concrete at least 6 inches (15.24 centimeters) thick.
The top of an aboveground vault shall be constructed of noncombustible material and shall be designed to be weaker than the walls of the vault to ensure that, in the event of any explosion, the thrust occurring inside the vault is directed upward before destructive internal pressure develops within the vault. The top of an at-grade or below-grade vault shall be designed to relieve or contain the force of any explosion occurring inside the vault. The walls of a vault, which are partially below-grade, shall extend not less than 4 feet (1.2 meters) abovegrade.
The top and floor of a below-grade vault and the container foundation shall be designed to withstand all anticipated loading from vehicular traffic, where applicable.
The walls and floor of a below-grade vault shall be designed to withstand anticipated soil and hydrostatic loading. The vault shall be liquid tight.
Adjacent vault may share a common wall.
The vault enclosure shall not have openings except those necessary for access to, inspection of, and filling, emptying, and venting of the container.
When required, the vault shall be designed to be wind and earthquake resistant, in accordance with good engineering practice.
The vault shall be provided with an open and continuous vent to provide ventilation to dilute, disperse, and remove any vapors. This continuous vent line shall terminate 12 feet (3.7 meters) abovegrade.
(i) Each vault shall be provided with a means for personal entry, which shall only be at the top of the vault to allow for the visual inspection of the container and piping surfaces. At each entry point, a warning sign that indicates the need for procedures for safe entry into a confined space shall be posted. Each entry point shall be secured against unauthorized entry and vandalism.
(j) The vault shall be provided with an approved means to admit a fire suppression agent.
(k) The loading and unloading transfer connection for abovegrade vaults shall terminate outside the vault.

(l) Provisions shall be made for the normal operation of valves without entering the vault.
(m) A vault shall be located not less than 15 feet (4.6 meters) from buildings and property lines.
(n) Container selection and arrangement. Containers shall be listed for aboveground use. Each container or manifolded system, shall be in its own vault and shall be completely enclosed by the vault, and securely fastened to the floor of the vault. Sufficient clearance between the container and the vault shall be provided to allow for visual inspection and maintenance of all the vault surfaces as well as the tank and its appurtenances.
(o) The vault shall be provided with a continuous H_2 gas leak detection device with an audible alarm set at 25% of the LEL and will render the system inoperable. The H_2 leak detection device shall function during system maintenance operations.

R 29.7036 Location of dispensing operations and equipment.
Rule 36. Sections 3-4 to 3-4.5 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Location of dispensing operations and equipment.
Dispensing equipment located outdoors shall be in accordance with the following:
Dispensing equipment shall be allowed under weather protection in accordance with the requirements of section 4-5 and constructed in a manner that prevents the accumulation of H_2 gas.
Gaseous H_2 compression and storage equipment located on top of motor fuel-dispensing facility canopies shall be in accordance with the following:
(a) Canopies shall be constructed in accordance with the requirements for weather protection found in section 2209.3.2.6 of the International Fire Code.
(b) Fuel-dispensing areas under canopies shall be equipped throughout with an approved automatic sprinkler system. Operation of the fire sprinkler system shall activate the emergency functions of the following:
(i) Operation of the fire sprinkler system shall activate an automatic emergency discharge system, which will discharge the H_2 gas from the equipment on the canopy top through the vent pipe system.
Operation of the fire sprinkler system shall activate the emergency shutdown control in section 7-6.
Approved signage having a minimum of 3-inch (7.62 centimeters) block letters shall be affixed on all sides on the exterior of the canopy structure stating either CANOPY TOP HYDROGEN STORAGE or using NFPA 704, "*Standard System for the Identification of Fire Hazards of Materials*," 1996 edition, adopted by reference in section 8-1.1.
System must be in compliance with section 3-2.2.2.
Dispensing equipment located outdoors shall be aboveground, shall not be beneath electric power lines or where exposed by their failure, and shall be a minimum of 10 feet (3.1 meters) from the nearest important building or property line or 20 feet (6.1 meters) from any activity that involves a fixed source of ignition.
Dispensing equipment shall be located so that all parts of the vehicle being served are on the premises of the motor fuel dispensing facility.
Dispensing equipment shall be protected against collision damage by means acceptable to the department. Dispensing equipment shall be securely bolted in place. Dispensing equipment shall be installed in accordance with manufacturer's instructions.

R 29.7037 Installation of emergency shutdown equipment.
Rule 37. Sections 3-5 to 3-5.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Installation of emergency shutdown equipment.

Breakaway protection shall be provided in a manner such that, if a pull away event occurs, H_2 gas will cease to flow at any separation.
A breakaway device shall be installed at every dispensing point. Such a device shall be arranged to separate by a force not greater than 150 pounds (75 kilograms), when applied in any direction that the vehicle would move. Breakaway devices shall be compatible with a standard acceptable to the department.

Chapter 4 Design considerations at specific locations

R 29.7038 Outdoor locations.
Rule 38. Sections 4-1, 4-1.1, and 4-1.2 were reproduced from NFPA 50A as follows:
4-1 Outdoor Locations.
4-1.1 Where protective walls or roofs are provided, they shall be constructed of noncombustible or limited-combustible materials.
4-1.2 Electrical equipment within 15 feet (4.6 m) shall be in accordance with Article 501 of NFPA 70, *National Electrical Code*®, for Class I, Division 2 locations.

R 29.7039 Separate buildings.
Rule 39. Sections 4-2.1, 4-2.4 to 4-2.6 are reproduced from NFPA 50A, and sections 4-2.2, and 4-2.3 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
4-2 Separate buildings.
4-2.1 Separate buildings shall be constructed of noncombustible or limited-combustible materials. Windows and doors shall be located so as to be readily accessible in case of emergency.
Exception: Window glazing shall be permitted to be plastic.
4-2.2 Ventilation to the outdoors shall be provided. Inlet openings shall be located within 18 inches (30 centimeters) of the floor in exterior walls only. Outlet openings shall be located at the high point of the room in exterior walls or roof. Inlet and outlet openings shall each have a minimum total area of 1 square foot/1,000 cubic feet (1 square meters/305 cubic meters) of room volume. Discharge from outlet openings shall be directed or conducted to the atmosphere.
4-2.3 Deflagration venting shall be provided in exterior walls or roof only.
4-2.3.1 Vents shall be any 1 or any combination of the following:
(a) Walls of light material.
(b) Lightly fastened hatch covers.
(c) Lightly fastened, outward opening doors in exterior walls.
(d) Lightly fastened walls or roof.
(e) Other methods in accordance with NFPA 69.
4-2.3.2 Where applicable, snow loads shall be considered.
4-2.4 There shall be no sources of ignition from open flames, electrical equipment, or heating equipment.
4-2.5 Electrical equipment shall be in accordance with Article 501 of NFPA 70, *National Electrical Code*, for Class I, Division 2 locations.
4-2.6 Heating, if provided, shall be by steam, hot water, or other indirect means except that electrical heating may be used if in compliance with 4-2.5.

R 29.7040 Special rooms.
Rule 40. Sections 4-3.2 to 4-3.6 are reproduced from NFPA 50A, and sections 4-3.1, 4-3.7 to 4-3.9, and table 4-3.9 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
4-3 Special rooms.

4-3.1 Floor, walls, and ceiling shall be constructed of noncombustible or limited-combustible materials. Interior walls or partitions shall have a fire resistance rating of at least 2 hours, shall be continuous from floor to ceiling, and shall be securely anchored. At least 1 wall shall be an exterior wall. Windows and doors shall be located so as to be readily accessible in case of emergency.
Exception: Window glazing may be of plastic.
4-3.1.1 If access to the room from outside the primary structure is not possible, access from within the primary structure shall be made through 1 vapor-sealing 2-hour self-closing fire door.
4-3.2 Ventilation shall be as provided in section 4-2.2.
4-3.3 Explosion venting shall be as provided in section 4-2.3.
4-3.4 There shall be no sources of ignition from open flames, electrical equipment, or heating equipment.
4-3.5 Electrical equipment shall be in accordance with Article 501 of NFPA 70, *National Electrical Code*, for Class I, Division 2 locations.
4-3.6 Heating, if provided, shall be by steam, hot water, or indirect means except that electrical heating shall be permitted to be used if in compliance with 4-3.5.
4-3.7 Room ventilation.
4-3.7.1 The ventilation shall be at least 1 cubic feet/minute/square feet (0.3 cubic meters/minute/square meters) of room area, but not less than 1 cubic foot/minute/12 cubic feet (0.3 cubic meters/minute/3.7 cubic meters) of room volume and shall be designed such that an accumulation of H_2 at a concentration equal to or greater than 25% of the lower flammability limit shall not occur in any part of the room.
Where installed, a gas detection system shall be equipped to sound an alarm and visually indicate when a maximum of 25% of the lower flammable limit is reached. At 40% of the lower flammable limit the gas detection system shall shut down the hydrogen system and provide notification to the system operator.
4-3.7.3 Any failure of the ventilation system shall immediately shut down the fueling system and provide notification to the system operator. Reactivation of the fueling system shall be by manual restart and shall be conducted by trained personnel.
4-3.7.4 The gas detection system shall function during ventilation system maintenance operations.
4-3.7.5 A ventilation system for a room within or attached to another building shall be designed to ensure that all areas serviced by the ventilation system meet performance requirements in accordance with section 4-3.7 during the normal operating conditions and during alarm conditions.
4-3.8 Warning signs.
4-3.8.1 Access doors shall have warning signs with the words "WARNING – NO SMOKING – NON ODORIZED FLAMMABLE GAS – NO OPEN FLAMES. The wording shall be in plainly legible, bright red letters not less than 1 inch (2.54 centimeters) high on a white background.
Indoor attended fast-fill fueling.
4-3.9.1 Attended indoor fast-fill fueling system shall be in accordance with subsections (a) to (k) of this section.
(a) Gas storage equipment shall be located outdoors unless approved by the department. Gas processing and compression equipment shall be listed or approved for indoor use or located outdoors.
(b) An emergency manual shutdown device shall be located in the dispensing area not less than 20 feet (6.1 meters) and not more than 100 feet (30.5 meters) in the path of egress from the dispensing area. Actuation of the emergency manual shutdown device shall perform in accordance with subsection (h) of this section.
(c) The dispenser shall be equipped with a gas detection system which shall actuate in accordance with subsection (h) of this section when a maximum of 25% of LFL is detected (1% H_2 in air).
(d) The dispenser shall be equipped with a leak detection system capable of identifying a leak from the dispensing system outside the dispenser housing by conducting a pre-fill pressure test. The leak

detection must be capable of detecting a minimum leak rate of 1.9 gallons/minute and shall actuate in accordance with subsection (h) of this section when a leak is detected.
(e) Whether the fill is communicated or non-communicated, the dispensing system must be listed, labeled, or approved to insure that the fills are protective of the safety of the temperature, pressure and flow rate of the on-board fuel system during fueling.
(f) The dispensing area shall be equipped with a fire detection system and shall actuate in accordance with subsection (h) of this section if a fire is detected.
(g) A ventilation system shall be installed for the dispensing area. The ventilation system shall be capable of delivering ventilation air as provided in section 4.3.7. The ventilation system shall operate prior to dispenser operation, during fueling, and for at least 1 minute after fueling has been completed. The ventilation flow rate shall be monitored. Failure or reduction of the ventilation flow rate below the required flow rate shall shut down the dispensing system.
Exception: A dispensing area ventilation system is not required when the fuel delivery per refueling event is less than those listed in table 4-3.9.

Table 4-3.9

Room Size (m3)	Maximum fuel delivery per refueling event that does not require room ventilation (kg)
1000	0.8
2000	1.7
3000	2.5
4000	3.3
5000	4.2

(h) The actuation of any 1 of the systems listed in subsections (b) to (g) of this section shall be in accordance with table 4-3.9, and shall shut down the dispenser, stop the flow of gas into the room, and start or continue to run the ventilation system, if required.
1. Reactivation of the dispenser and gas flow into the room shall be by manual restart and shall be conducted by trained personnel.
(i) Interior walls, doors, and window openings within 15 feet (4.6 meters) of the dispenser shall be constructed of materials having a fire rating of at least 2 hours. Wall penetrations shall require use of listed fire rated equipment.
(j) The owner/operator shall not allow hot work/open flames within 15 feet (4.6 meters) of the refueling location unless the dispenser is shut down, depressurized, and purged.
(k) If H_2 is to be removed from the vehicle storage system, H_2 shall be discharged into a closed transfer system or vented outdoors in accordance with CGA G-5.5, “Hydrogen Vent Systems”, adopted by reference in section 8-1.

R 29.7041 Indoor H_2 storage system location.
Rule 41. Sections 4-4 to 4-4.6, and table 4-4.1of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Indoor H_2 storage system location.
H_2 systems of less than 3,500 scf (99 cubic meters) and greater than the maximum allowable quantity found in table 4.4.1, where located inside buildings outside of special rooms, shall be located in the building so that the system will be as follows:
In a ventilated area in accordance with the provisions of section 4-3.7.

Separated from incompatible materials.
15 feet (4.6 meters) from ordinary electrical equipment, and 25 feet (7.6 meters) from open flames or welding or other sources of ignition.
50 feet (15.2 meters) from other low-pressure flammable gas storage (less than 500 psig).
Protected against damage in accordance with the provisions of section 2.1.5.

Table 4-4.1
Quantity Thresholds for Gases Requiring Special Provisions

Material	Unsprinklered areas		Sprinklered areas	
	No gas cabinet, gas room, or exhausted enclosure	Gas cabinet, gas room, or exhausted enclosure	No gas cabinet, gas room, or exhausted enclosure	Gas cabinet, gas room, or exhausted enclosure
Cryogenic liquid (flammable or oxidizing)	45 gal	90 gal	90 gal	180 gal
Flammable gas liquefied nonliquefied	14 kg_3 (30 lb) 28 m^3 (1,000 ft^3)	27 kg_3 (60 lb) 28 m^3 (2,000 ft^3)	27 kg_3 (60 lb) 28 m^3 (2,000 ft^3)	55 kg_3 (120 lb) 56 m^3 (4,000 ft^3)

More than 1 system of 3,500 scf (99 cubic meters) or less shall be permitted to be installed in the same room or area outside of special rooms, provided the systems are separated by at least 50 feet (15.2 meters), or by a full height fire-resistive partition having a minimum fire resistance rating of 2 hours is located between the systems.
Each system described in section 4-4.2 shall meet all of the requirements of section 4-4.1.
The separation distance between multiple systems of 3,500 scf (99 cubic meters) or less shall be permitted to be reduced to 25 feet (7.6 meters) in buildings where the space between storage areas is free of combustible materials and protected with a sprinkler system.
When sprinkler protection is provided, the area in which H_2 is stored or used shall be protected with a sprinkler system designed to be not less than that required by NFPA 13, "*Standard for the Installation of Sprinkler* Systems," adopted by reference in section 8-1, for ordinary hazard group 2 with a minimum design area of 3,000 square feet (914.4 square meters).
When sprinkler protection is provided, the area in which the H_2 is stored or used shall be protected with a sprinkler system designed to be not less than that required by NFPA 13, "*Standard for the Installation of Sprinkler Systems*," adopted by reference in section 8-1, for extra hazard group 1 with a minimum design area of 2,500 square feet (762 square meters).

R 29.7042 Canopies.
Rule 42. Sections 4-5 to 4-5.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
4-5 Canopies.
4-5.1 A container installation that has a canopy or roof shall have prior approval by the department based on the best interests of public health, safety, and welfare and the environment. This canopy or roof shall not limit the dissipation of heat or dispersion of flammable vapors and cannot restrict firefighting access and control.
4-5.2 A roof or canopy must meet all of the following conditions:

(a) The lowest elevation of the roof or canopy shall not be less than 4 feet (1.8 meters) from the top of the container.
(b) All container vent(s) are extended through the roof or canopy.
(c) The roof or canopy is constructed in such a way that it will not allow vapors to accumulate under the canopy or roof.
(d) Be constructed of noncombustible materials

R 29.7043 Fast-fill station.
Rule 43. Sections 4-6 to 4-6.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
4-6 Fast-fill station.
4-6.1 Each line between a gas storage facility and a dispenser at a fast-fill station shall have a valve that closes when 1 of the following occurs:
The power supply to the dispenser is cut off.
Any emergency shutdown device at the refueling station is activated.
4-6.2 A manual shutoff valve shall be provided at a fast-fill station upstream of the breakaway device specified in section 3-5, where it is readily accessible to the person dispensing H_2, unless either of the following occurs:
(a) The self-closing valve referred to in section 4-6.1 is located immediately upstream of the dispenser.
(b) The dispenser is equipped with a self-closing valve that closes each time the dispenser is deactivated or when an emergency device is activated.

R 29.7044 Vehicle fueling appliances in nonresidential occupancies.
Rule 44. Sections 4-7 to 4-7.7 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
4-7 Vehicle fueling appliances (VFA) in nonresidential occupancies.
VFAs shall not exceed a gas flow of 36 scf/minute.
VFAs shall be listed.
4-7.3 VFAs may be used to fill stationary containers at vehicular fueling locations.
A VFAs installed with storage containers shall comply with the provisions of chapters 2, 3, and 4.
The installation of VFAs at a residence shall comply with the requirements of section 4-9.
Where more than 1 VFA are located in a common area, spacing between the VFAs shall not be less than 3 feet (1 meter), unless permitted in the manufacturer's recommendations.
Unless specifically permitted in the manufacture's recommendations, multiple VFAs shall not be manifolded together on the discharge side.

R 29.7045 Installation of electrical equipment.
Rule 45. Sections 4-8 to 4-8.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Installation of electrical equipment.
Electrical equipment and wiring shall be specified and installed in accordance with NFPA 70, "*National Electrical Code*," adopted by reference in section 8-1.
Static protection shall be required when gaseous H_2 cargo transport vehicles are loaded or unloaded. This can be achieved when cargo transport vehicles or marine equipment are loaded or unloaded by grounding cable, conductive hose, flexible metallic tubing, or pipe connections where both halves of metallic couplings are in contact.

R 29.7046 Residential fueling facility.
Rule 46. Sections 4-9 to 4-9.11 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Residential fueling facility (RFF).
Application. This section applies to the design, construction, installation, and operation of an RFF.
Storage of H_2 in quantities not exceeding 3,500 scf (99 cubic meters) at 12,500 psig shall be permitted in systems listed by a national recognized testing laboratory.
4-9.2.1 The RFF may store H_2 indoors or outdoors. Indoor storage of H_2 shall not exceed 3,500 scf (99 cubic meters) at 7,700 psig provided that indoor storage is ventilated per section 4-3.7, or storage shall be in a separate sealed enclosure ventilated directly to outdoors.
System component qualifications. System components not part of a listed fueling appliance shall comply with the appropriate provisions of chapter 2.
Fueling appliances shall be listed.
General safety requirements. All equipment related to RFF installation shall be protected to minimize the possibilities of physical damage and vandalism. The use of an enclosure for the compressor package, similar to that of a central air conditioner, shall be permitted to satisfy this requirement.
All equipment related to RFF installation shall be designed for the pressure, temperature, and service expected.
Vehicles shall not be considered a source of ignition.
Exception: Vehicles containing fuel-fired equipment, such as recreational vehicles, shall be considered a source of ignition unless this equipment is shutoff completely before entering an area in which ignition sources shall not be permitted.
Unless specifically permitted in the manufacturer's recommendations, multiple RFFs shall not be manifolded together on the discharge side.
Where more than 1 RFF is located in a common area, spacing between the RFFs shall not be less than 3 feet (1 meter) unless permitted by the manufacturer's recommendations.
Installation.
General. All RFF equipment shall include manufacturer's recommendations and such recommendations shall include, but may not be limited to, the requirements for the proper installation, operation, and maintenance of the RFF. The RFF shall be installed, operated, and maintained in accordance with the manufacturer's recommendations.
The RFF shall have a nameplate marked with minimum and maximum gas inlet pressure and flow rate, gas outlet maximum pressure, and electrical requirements.
Indoors. Where it is necessary to install the compression unit and refueling connections indoors, the compression unit shall be mounted or otherwise located such that the compression unit is vented outdoors.
Where the RFF or the vehicle being fueled is located indoors, a gas detector set to operate at ~~1/5~~ 25% the lower limit of flammability of H_2 shall be installed in the room.
The detector shall be located within 6 inches (15.2 centimeters) of the ceiling or the highest point in the room.
The detector shall stop the flow of H_2 and operate an audible or a visual alarm.
Installation of pressure relief valves shall have pressure relief device vents or vent lines to convey escaping gas to the outdoors and then upward to a safe area to prevent impinging on buildings, other equipment, or areas open to the public, such as sidewalks.
4-9.7 Piping and hose. A fueling hose shall be limited to a maximum length of 25 feet (7.62 meters) and shall be protected from mechanical damage from abrasion and from being driven over by a vehicle.
4-9.7.1 Transfer systems shall be capable of depressurizing the nozzle to facilitate disconnection. Bleed connections shall lead to a safe point of discharge.

Testing. All piping and tubing shall be tested after assembly according to section 2-6.
Installation of emergency shutdown equipment. An RFF shall be equipped with emergency manual shut down of the fuel supply prior to the RFF device. The emergency manual shutdown actuator shall be at least 5 feet (1.52 meters) from the RFF and in view of the RFF.
Breakaway protection shall be provided in a manner so that, in the event of a pull away, H_2 ceases to flow.
The breakaway devices shall comply with ANSI/CSA HGV 4.4, "*breakaway devices for dispensing systems*," adopted by reference in section 8-1.
A breakaway device shall be installed at every dispensing point.
The breakaway device in 4-9.8.2.3 shall be arranged to separate using a force not greater than 150 pounds (75 kilograms) when applied in a horizontal direction.
Operation. An RFF shall be operated in accordance with the manufacturer's instructions.
A fuel supply container shall not be charged in excess of its maximum allowable service pressure at normal temperature.
U.S. DOT containers shall be charged in accordance with U.S. DOT regulations.
Where H_2 is being transferred to a motor vehicle, the engine shall be turned off.
Maintenance and inspection. All RFF equipment shall be inspected and maintained in accordance with the manufacturer's instructions.

Chapter 5 Operation and maintenance

R 29.7047 Operation.
Rule 47. Section 5-1 is reproduced from NFPA 50A, and sections 5-1.1 to 5-1.3 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
5-1 Operation. For installations that require any operation of equipment by the user, instructions shall be maintained at operating locations.
A vehicle container shall not be charged in excess of the service pressure compensated for the differences in temperature from nominal.
5-1.2 H_2 vehicle containers shall not be subjected to pressure in excess of 125% of the marked service pressure even if, on cooling, the pressure settles to the marked service pressure.
Where an overpressure incident that results in operation of the overpressure protection system of the dispenser occurs, the dispenser pressure control system shall be examined and certified by a qualified operator prior to being returned to service.

R 29.7048 Maintenance.
Rule 48. Section 5-2 is reproduced from NFPA 50A, and sections 5-2.1 to 5-2.11 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
5-2 Maintenance. Each hydrogen system installed on consumer premises shall be inspected annually and maintained by a qualified representative of the equipment owner.
5-2.1 Hoses, nozzles and breakaways shall be examined visually to ensure that they are safe for use and shall be maintained in accordance with manufacturer's instructions on at least a quarterly basis or earlier if required by the manufacturer
Hose shall be tested for leaks per manufacturer's requirements and any leakage shall be a reason for rejection and replacement.
Testing shall be carried out with helium or with helium/ H_2 blend as the test gas or if this is not possible, with H_2 using suitable precautions.
The facility operator shall maintain a maintenance log in good condition and accessible to department inspection. Records shall be maintained for a minimum of 2 years.

5-2.5 Controllers on fuel stations shall be designed to verify the integrity of the fuel hose, breakaway, nozzle, and receptacle by pressurizing these components to at least the vehicle backpressure and checking pressure drop prior to the start of fueling.
5-2.6 Containers and their appurtenances, piping systems, compression equipment, controls, and detection devices shall be maintained in operating condition and according to manufacturer's instructions.
Pressure relief valves shall be maintained in operating condition.
Maintenance personnel shall be trained in leak detection procedures.
Area within 10 feet (3.1 meters) of dispenser shall be free from debris, weeds and other material that present a fire hazard.
Safety, gas detection, and fire protection equipment shall be tested or inspected at intervals not to exceed 6 months.
Maintenance activities on fire control equipment shall be scheduled so that a minimum of equipment is taken out of service at any 1 time and fire prevention safety is not compromised.

R 29.7049 Clearance to combustibles.
Rule 49. Section 5-3 of the storage and handling of gaseous and Liquefied H_2 code is added as follows:
5-3 Clearance to combustibles. The area within 10 feet (3.1 meters) of any H_2 container shall be kept free of dry vegetation and combustible material.

R 29.7050 Cathodic protection maintenance.
Rule 50. Sections 5-4 and 5-4.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
5-4 Cathodic protection maintenance.
5-4.1(a) Owners and operators shall ensure that all metallic container systems that are underground, mounded, or partially underground are protected and maintained to minimize corrosion as cited in the NACE standard RP0169 entitled "*Recommended Practice, Control of External Corrosion of Underground or Submerged Metallic Piping Systems*" and NACE recommended practice RP0285 entitled "*Corrosion Control of Underground Storage Tank Systems by Cathodic Protection*."
(b) All corrosion protection systems shall be operated and maintained to continuously provide corrosion protection to the metal components of the portion of the ASME approved container system that routinely contains H_2 gas and that is in contact with the ground.
(c) All container systems equipped with cathodic protection systems shall be inspected for proper operation by a NACE certified cathodic protection tester as defined in section 1-5. The H_2 system shall be tested within 6 months of installation and at least once each calendar year at intervals not to exceed 15 months.
(d) Container systems equipped with impressed current cathodic protection systems shall be inspected by the owner every 60 days to ensure that the equipment is operating within design specifications. The design limits shall be readily available.
(e) If container systems are equipped with cathodic protection, then the owner or operator shall maintain records to demonstrate that the cathodic protection is in compliance with the performance standards of this section. The records shall provide both of the following:
(1) The results of the last 3 inspections required in subsection (d) of this section.
The results of testing from the last 2 inspections required in subsection (c) of this section.
(f) Within 6 months following the repair of any cathodically protected container system, where the repairs may affect the operation of the cathodic protection system, the system shall be tested in accordance with subsections (c) and (d) of this section to ensure that it is operating properly.

(g) Repairs or replacement of a cathodic protection system shall be conducted by a NACE certified corrosion expert as defined in section 1-5. General system maintenance of the cathodic protection system including, but not limited to, replacement of fuses, and splicing of cable would not be required to be designed by a corrosion expert and shall be approved by the department to not increase the hazard to public health, safety, and welfare and the environment.

R 29.7051 Stray or impressed currents and bonding.
Rule 51. Sections 5-5 to 5-5.3 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Stray or impressed currents and bonding.
Where stray or impressed currents are used or can be present on dispensing systems, such as cathodic protection, protective measures to prevent ignition shall be taken.
Static protection between the fuel dispenser and the vehicle shall not be required where H_2 is transferred by conductive hose, flexible metallic tubing, or pipe connections where both halves of the metallic couplings are in continuous contact.
The transfer surface shall be concrete or shall have a resistivity not exceeding API-RP 2003, "*protection against ignitions arising out of static, lightning, and stray currents*," adopted by reference in section 8-1, performance criteria of 1 megohm as measured using a method acceptable to the department, such as EN 1081 1998 "*Resilient Floor Coverings – Determination of the Electrical Resistance.*", adopted by reference in section 8-1.

R 29.7052 Emergency plan.
Rule 52. Sections 5-6 to 5-6.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Emergency plan.
An emergency plan shall be prepared and updated wherever gaseous or liquefied H_2 are produced, handled, stored, or used.
The plan shall be available to the department for inspection upon reasonable notice and shall include the following information:
The type of emergency equipment available and its location.
A brief description of any testing or maintenance programs for the available emergency equipment.
An indication that hazard identification labeling is provided for each storage area.
Location of posted emergency procedures.
A material safety data sheet (MSDS or equivalent) that is available for the gaseous or liquefied H_2 stored or used on the site.
A list of personnel or site operating authority who are designated and trained to be liaison personnel for the fire department and who are responsible for, but shall not be limited to, the following:
Aiding the emergency responders in pre-emergency planning.
Identifying the location of the gaseous and liquefied H_2 stored or used.
Accessing material safety data sheets.
Knowledge of the site emergency procedures.
(g) A list of types and quantities of gaseous and liquefied H_2 found within the facility.

R 29.7053 Release of H_2.
Rule 53. Sections 5-7 to 5-7.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Release of H_2.

Records of unexpected discharges. Accurate records of the unexpected discharge of gaseous or liquefied H_2 shall be kept by the facility and made readily available upon request. The records shall be kept for a minimum of 2 years.
Container or PRD failure. When an unexpected discharge due to container or PRD failure is discovered the department and the local fire department shall be immediately notified, and the container shall be repaired or be removed from service.

R 29.7054 Security.
Rule 54. Sections 5-8 and 5-8.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Security.
Compressed gas cylinders, containers, and systems shall be secured against accidental dislodgement and against access by unauthorized personnel.

R 29.7055 Leaks, damage, or corrosion.
Rule 55. Sections 5-9 and 5-9.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Leaks, damage, or corrosion.
Leaking, damaged, or corroded gaseous H_2 systems shall be removed from service, replaced, or repaired.

Chapter 6 Fire protection

R 29.7056 Fire protection; caution.
Rule 56. Section 6-1 is reproduced from NFPA 50A as follows:
6-1 Caution. Personnel shall be cautioned that hydrogen flames are practically invisible.

R 29.7057 Signage.
Rule 57. Sections 6-2 to 6-2.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Hazard identification signs shall be conspicuously placed at all locations where H_2 gas is produced, stored, used, or handled.
6-2.1 Ratings shall be assigned in accordance with NFPA 704, standard system for the identification of the hazards of materials for emergency response.
6-2.2 The hazard classification of the metal hydride storage system shall be based on the H_2 stored without regard to the metal hydride content.

R 29.7058 Identification signs.
Rule 58. Sections 6-3 to 6-3.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
6-3 Signs prohibiting smoking or open flames within 25 feet (7.6 meters) shall be provided where H_2 gas is produced, stored, or used.
A sign with the following legends printed in red capital letters on a white background shall be conspicuously posted:
"NONODORIZED FLAMMABLE GAS - NO SMOKING – NO OPEN FLAMES"
All lettering on signage shall be 3 inches (7.62 centimeters) or more.
Exception: This does not apply to motor vehicle dispensing per sections 7.2.16 and 4-3.8.1.

6-3.2 Identification signs. Visible hazard identification signs shall be provided in accordance with NFPA 704, "*Standard System for the Identification of the Hazards of Materials for Emergency Response*," adopted by reference in section 8-1, at entrances to buildings or areas in which liquefied H_2 is stored, handled, or used.

R 29.7059 Fire protection.
Rule 59. Section 6-4 of the storage and handling of gaseous and Liquefied H_2 code is added as follows:
6-4 A portable fire extinguisher having a rating of not less than 40-B:C, or 2 20-B:C, shall be located within 75 feet (22.9 meters) from the pumps, dispensers, and container fill openings. Fire extinguishers shall be inspected and maintained according to NFPA 10, "*standard for portable fire extinguishers*," adopted by reference in section 8-1.1.

R 29.7060 Sprinkler protection.
Rule 60. Section 6-5 of the storage and handling of gaseous and Liquefied H_2 code is added as follows:
6-5 When sprinkler protection is provided, the area in which H_2 is stored or used shall be protected with an automatic sprinkler system designed to be not less than that required by NFPA 13, "*standard for the installation of sprinkler systems*," adopted by reference in section 8-1.

Chapter 7 Gaseous hydrogen compression, gas processing, storage, and dispensing systems

R 29.7061 System component qualifications.
Rule 61. Section 7-1 of the storage and handling of gaseous and Liquefied H_2 code is added as follows:
System component qualifications. System components shall comply with the appropriate provisions of chapters 2 and 3 of this part.

R 29.7062 General system requirements.
Rule 62. Sections 7-2 to 7-2.18 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
General system requirements.
All fuel dispensing facilities shall meet the provisions of this chapter.
7-2.2 Compression, processing, generation, storage, and dispensing equipment shall be protected to prevent damage from vehicles and minimize the possibilities of physical damage and vandalism and meet the requirements of section 2-1.5 and section 3-4.4.
7-2.2.1 Access to storage, compression, and gas processing equipment by members of the public shall be restricted by a suitable secure area.
7-2.3 Control devices shall be installed so that internal or external icing does not cause vehicle or fueling station malfunction.
7-2.4 Vehicles shall not be considered a source of ignition with respect to the provisions of this chapter.
Exception: Vehicles containing fuel-fired equipment, such as recreational vehicles and catering trucks, shall be considered a source of ignition unless this equipment is shut off completely before entering an area in which ignition sources are not permitted.
The fueling connection shall prevent the escape of gas where the connector is not properly engaged or becomes separated.
Fueling nozzles for H_2 service shall be in accordance with section 2-12.1.
Compression and gas processing equipment shall be designed for use with H_2 and for maximum pressures and temperatures to which it can be subjected under normal operating conditions.

Compression and gas processing equipment shall have pressure relief devices that limit each stage pressure to the maximum allowable working pressure for the compression cylinder and piping associated with that stage of compression and meets the requirements of chapter 2.
H_2 compression equipment shall be equipped with appropriate automatic shutdown controls.
Control circuits that shut down shall remain down until manually activated or reset by qualified personnel.
Engine-driven compressor installations shall conform where applicable to R 29.5101 et seq.
Gas processing equipment, including compression and generation equipment, in processes where liquid is present, shall incorporate means to minimize liquid carryover to the storage system.
A hazard analysis shall be conducted on every H_2 fueling system installation by a qualified engineer with proven expertise in H_2 fueling systems and installations.
Exception: This does not apply to section 4-9.
The hazard analysis shall include the following: fire protection measures, fire protection and suppression systems, detection systems, and ventilation.
At a minimum, the hazard analysis shall include consideration of potential failures in hoses, nozzles, dispensing equipment, as well as failures for maintenance and service.
Method used for hazard analysis shall be 1 or combination of several of the following recognized procedures: hazard and operability studies (HAZOPs), failure mode effects and criticality analysis (FMECA), preliminary hazards analysis (PHA), fault tree analysis (FTA) and event tree analysis (ETA). Other analysis methods, when used, shall ensure same level of system safety as provided by any of the recognized procedures and be acceptable to the department based on the best interest of the public health, safety, and welfare and the environment.
Standard designs that have been analyzed by recognized procedures need not be studied each and every time such installation occurs. Site-specific elements that are unique to the installation shall be reviewed in concert with the analysis performed on the standard system to ensure that the standard design has not been altered in a way that would negatively affect the hazard analysis.
These hazard analyses shall be available for review at final inspection, prior to the installation being placed into service, shall be maintained on site, and be available to the department upon request.
Dispensing systems shall be equipped to stop fuel flow automatically when a fuel supply container reaches the temperature-corrected fill pressure.
Dispensing systems shall be equipped with an overpressure protection device set at 140 percent of the service pressure of the fueling nozzle it supplies.
Warning signs shall be conspicuously posted in the dispensing area and shall incorporate the following or equivalent wording: "Stop Motor, No Smoking, Non-Odorized Flammable Gas. No Filling Of Portable Containers In Or On A Motor Vehicle."
Each H_2 -dispensing device shall be located not less than 10 feet (3.1 meters) from property lines, openings to buildings, and buildings of combustible wall construction. A dispensing device shall not be less than 20 feet (6.1 meters) from any activity that involves a fixed source of ignition. In addition, a dispenser shall not be placed beneath a power line.
Each container filling location that is open to the public shall have an attendant or supervisor on duty who meets the requirements of section 1-10.1 of the rules.

R 29.7063 Operating requirements for full-service H_2 motor fuel dispensing facilities.
Rule 63. Sections 7-3 to 7-3.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Operating requirements for full-service H_2 motor fuel dispensing facilities.

Each motor fuel dispensing facility shall have an attendant or supervisor on duty whenever the facility is open for business. The attendant or supervisor shall dispense H_2 into fuel tanks of motor vehicles or into portable containers.
The provisions of section 2-1 of this part shall not prohibit the temporary use of a portable storage container in conjunction with the dispensing of H_2 into a container or motor vehicle or motorized equipment which is on the premises and which is not accessible to the public. A portable storage container installation shall only be made with the approval of the department and comply with all the requirements of section 2-13.

R 29.7064 Operating requirements for attended self-service motor fuel dispensing facilities.
Rule 64. Sections 7-4 to 7-4.5 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Operating requirements for attended self-service motor fuel dispensing facilities.
Self-service motor fuel dispensing facility means that portion of a property where H_2 used as motor fuel is stored and dispensed from fixed, approved dispensing equipment into the fuel containers of motor vehicles by persons other than the facility attendant and shall also include, where provided, facilities for sale of other retail products.
There shall be at least 1 attendant on duty while the self-service facility is open for business. The attendant's primary function shall be to supervise, observe, and control the dispensing of H_2 while the H_2 is actually being dispensed.
The responsibility of the attendant shall be as follows:
(a) Prevent the dispensing of H_2 into portable containers in or on a motor vehicle.
(b) Control sources of ignition.
(c) Immediately activate emergency controls and notify the fire department of any fire.
The attendant or supervisor on duty shall be mentally and physically capable of performing the functions and assuming the responsibility prescribed in section 7-4.3.
Operating instructions shall be conspicuously posted in the dispensing area.
The dispensing area shall at all times be in clear view of the attendant, and the placing or allowing of any obstacle to come between the dispensing area and the attendant control area is prohibited. This may be achieved by cameras, mirrors, or both. The attendant shall at all times be able to communicate with persons in the dispensing area.

R 29.7065 Operating requirements for unattended self-service motor fuel dispensing facilities.
Rule 65. Sections 7-5 to 7-5.5 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Operating requirements for unattended self-service motor fuel dispensing facilities.
Unattended self-service shall be permitted subject to the approval of the department based on the best interests of public health, safety, and welfare and the environment. Users shall use a key, card, or other method which is unique to each user, and which is provided by the facility operator, and shall be properly trained in dispensing operations. The owner shall verify such training to the department upon request.
At least 1 emergency shutoff device specified in section 7-6 shall be provided, and shall be reset only by the owner or an owner's authorized agent.
Operating instructions shall be conspicuously posted in the dispensing area. The instructions shall include the location of emergency controls.
In addition to the warning signs specified in section 6-3, emergency instructions shall be conspicuously posted in the dispenser area. The instructions shall incorporate the following or equivalent wording:
"Emergency instructions

In case of fire:
(1) Use emergency stop button.
(2) Report accident by calling the local fire number. Report location."
A telephone or other approved, clearly identified means to notify the fire department shall be provided on the site in a location approved by the department.

R 29.7066 Emergency shutoff devices.
Rule 66. Sections 7-6 to 7-6.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Emergency shutoff devices.
H_2 dispensing systems shall be provided with 1 or more clearly identified emergency shutoff devices or electrical disconnects at the dispensing area. Such devices or disconnects shall be installed in approved locations but not less than 10 feet (3.1 meters) and not more than 100 feet (30.5 meters) away from the dispensing area and which is along the means of egress. Emergency shutoff devices or electrical disconnects shall disconnect power and gas supply to all dispensing devices, to all remote pumps serving the dispensing devices, and to all associated power. When more than 1 emergency shutoff device or electrical disconnect is provided, all devices shall be interconnected. Resetting from an emergency shutoff shall require manual intervention and the manner of resetting shall be approved by the department.

R 29.7067 Refueling from transport vehicles.
Rule 67. Sections 7-7 to 7-7.11 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Refueling from transport vehicles. The dispensing of H_2 in the open from a transport vehicle to a motor vehicle located at commercial, industrial, governmental, or manufacturing establishments and intended for fueling vehicles used in connection with their businesses shall be permitted if all of the requirements of sections 7-7.1 to 7-7.11 have been met.
The department shall be notified before commencing operations under section 7-7.
The transport vehicle shall comply with U.S. DOT requirements for the transportation of H_2.
Nighttime deliveries shall only be made in an area considered to be adequately lighted.
The transport vehicle flasher lights shall be in operation while dispensing operations are in progress.
Smoking materials, including matches, lighters, and other sources of ignition, including torches, shall not be used within 20 feet (6.1 meters) of the dispensing of H_2 in the open from a transport vehicle to a motor vehicle.
Each area where dispensing of H_2 in the open from a transport vehicle to a motor vehicle shall be provided with 1 or more listed fire extinguishers that have a minimum capability of 40-B:C. The fire extinguishers shall be readily accessible to the dispensing operation. Fire extinguishers shall be inspected and maintained under NFPA 10, "*Standard for Portable Fire Extinguishers,*" adopted by reference in section 8-1.
Mobile fueling shall take place aboveground, shall not be beneath electric power lines or where exposed by their failure, and shall be a minimum of 10 feet (3.1 meters) from the nearest important building, property line, or combustible storage.
Transport vehicle brakes shall be set and chock blocks shall be in place.
Persons performing dispensing operations shall be qualified to deliver and dispense H_2 fuels. Operations of transport vehicles used for mobile fueling operations shall have access on-site or be in possession of an emergency communications device to notify the proper authorities if there is an emergency.

The transport vehicles shall be positioned with respect to vehicles being fueled to prevent traffic from driving over the delivery hose and between the transport vehicle and motor vehicle being fueled. The dispensing hose shall be properly placed on an approved reel or in an approved compartment before moving the transport vehicle.
Additional requirements. The transfer area must meet the requirements of section 5-5.

Chapter 8 Referenced publications

R 29.7068 Referenced publications.
Rule 68. Sections 8-1 to 8-1.2.10 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
The following documents or portions thereof are referenced within this standard as mandatory requirements and shall be considered part of the requirements of this standard. The edition indicated for each referenced mandatory document is the current edition, and cost as of the date of issuance of these rules. Copies of the adopted publications are available for inspection at the office of the Department of Environmental Quality, Waste and Hazardous Materials Division, Storage Tank Unit, P.O. Box 30241, Lansing, Michigan 48909-7741.
NFPA publications. National Fire Protection Association. 1 Batterymarch Park, P.O. Box 9101, Quincy, Massachusetts 02269-9101.
NFPA 10, "*Standard for Portable Fire Extinguishers,"* 2002 edition, $36.50.
NFPA 13, "*Standard for the Installation of Sprinkler Systems,"* 2002 edition, $70.00.
NFPA 51, "*Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes*," 2002 edition, $28.00.
NFPA 52, *"Vehicle Fuel Systems Code,"* 2006 edition, $36.00.
NFPA 55, "*Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks*," 2005 edition, $36.50.
NFPA 69, "*Standard on Explosion Prevention Systems,"* 2002 edition, $33.50.
NFPA 70, "*National Electrical Code,"* 2005 edition, $75.00.
NFPA 101, "*Life Safety Code,"* 2006 edition, $75.00.
NFPA 220, "*Standard on Types of Building Construction*," 1999 edition, $28.00.
NFPA 496, "*Standard for Purged and Pressurized Enclosures for Electrical Equipment,"* 2003 edition, $33.50.
NFPA 704, "*Standard System for the Identification of the Hazards of Materials for Emergency Response,"* 2001 edition, $33.50.
Other publications.
ASME publications. American Society of Mechanical Engineers, Three Park Avenue, New York, New York 10016-5990.
ANSI/ASME B31.3, "*Process Piping,"* 2002 edition, $240.00.
ASME International, "*Boiler and Pressure Vessel Code,* Section VIII," 2004 edition, $525.00.
ASTM publication. American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428-2959.
ASTM E136-04, "*Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C,"* 2004 edition, $35.00.
CGA publications. Compressed Gas Association, 1725 Jefferson Davis Highway, Arlington Virginia 22202-4100.
CGA S-1.1, "*Pressure Relief Device Standards – Part 1 – Cylinders for Compressed Gases,"* 2002 edition, $196.00.

CGA S-1.2, "*Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases,"* 1995 edition, $145.00.
CGA S-1.3, "*Pressure Relief Device Standards – Part 3 – Stationary Storage Containers for Compressed Gases,"* 2003 edition, $145.00.
ANSI/CGA C-4, "*Method of Marking Portable Compressed Gas Containers to Identify the Material Contained,"* 2003 edition, $252.00.
CGA C-7, "*Guide to the Preparation of Precautionary Labeling and Marking of Compressed Gas Containers,"* 2000 edition, $268.00.
CGA G-5.5, "*Hydrogen Vent Systems,"* 2004 edition, $39.00.
IAS publications. International Approval Services, 8501 East Pleasant Valley Road, Cleveland, Ohio 44131.
ANSI/IAS NGV 4.4, "*Breakaway Devices for Dispensing Systems,"* 1999 edition, $57.00.
NACE publications. National Association of Corrosion Engineers International, 1440 South Creek Drive, Houston, Texas 77084.
NACE RP0169, "*Control of External Corrosion of Underground or Submerged Metallic Piping Systems," 2002* edition, $42.00.
NACE RP0285, "*Corrosion Control of Underground Storage Tank Systems by Cathodic Protection,"* 2002 edition, $37.00.
SAE publications. Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, Pennsylvania 15096.
SAE J2600, "*Compressed Hydrogen Surface Vehicle Fueling Connection Devices,"* 2002 edition, $59.00.
8-1.2.7 International codes council. 4051 West Flossmore Road, Country Club Hills, Illinois 60478-5795.
"International Fire Code," 2006 edition, section 2209.3.2.6, $61.50.
8-1.2.8 U.S. Government publications. U.S. Government Printing Office, Washington, DC 20402.
Title 49, Code of Federal Regulations, "*Transportation*," Parts 171-190, U.S. Department of Transportation "*Specifications and Regulations."*
ECS publications. European Committee for Standardization, Central Secretariat: rue de Stassart 36, B-1050, Brussels.
EN 1081, "*Resilient Floor Coverings, Determination of the Electrical Resistance,"* 1998 edition, $32.00.
API publications. American Petroleum Institute, 1220 L Street, Northwest, Washington, DC, 20005-5-4070.
API Recommended Practice 2003, "*Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents,"* 7th edition, $111.00.

PART 3. STORAGE AND HANDLING OF LIQUEFIED HYDROGEN NFPA 50B

Chapter 1 General information

R 29.7070 Scope.
Rule 70. Sections 1-1 to 1-1.3 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
1-1 Scope.
1-1.1 Application. This standard covers the requirements for the design, siting, construction, installation, spill containment, operation, maintenance, and dispensing from a liquefied H_2 system.

1-1.2 Nothing in this H_2 code shall be intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, environmental protection capability, or safety over those prescribed by this H_2 code, if technical documentation is submitted to the department to demonstrate equivalency and the system, method, or device is approved for the intended purpose.
1-1.3 This code shall apply to the design and installation of liquefied H_2 dispensing systems.
Exception: Dispensing into rail and aircraft.

R 29.7071 Retroactivity.
Rule 71. Sections 1-2 and 1-2.1of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
1-2 Retroactivity.
1-2.1 The provisions of this H_2 code are necessary to provide a reasonable level of protection from loss of life and property from fire and explosion. The provisions shall reflect situations and the state of the art prevalent when the H_2 code was issued. Unless otherwise noted, it shall not be intended that the provisions of this H_2 code be applied to facilities, equipment, structures, or installations that were existing or approved for construction or installation before the effective date of this H_2 code, except in those cases where it is determined by the department that the existing situation involves a distinct hazard to public health, safety, and welfare, and the environment.

R 29.7072 Definitions.
Rule 72. Section 1-3 of the storage and handling of gaseous and Liquefied H_2 code is added and section 1-3.1 is reproduced from NFPA 50B as follows:
1-3 Definitions.
"ANSI" means the american national standards institute.
"Approved" means acceptable to the department.
"ASME" means the american society of mechanical engineers.
"Authority having jurisdiction" means the department.
"Automatic emergency shutoff valve" means a designated fail-safe automatic closing valve designed to shut off the flow of gases or liquids that is initiated by a control system where the control system is activated by either manual or automatic means.
(f) "Bulk storage" means a single container or containers, where all containers draw down at the same time.
"Cargo transport container" means a mobile unit designed to transport gaseous or liquefied H_2.
"Cascade storage system" means storage in containers or cylinders arranged in banks where each bank acts as 1 large container. The banks are separated by switching valves to provide sequential drawdown of the banks. The bank may consist of 1 or more containers or cylinders.
(i) "Cathodic protection" means a technique to prevent the corrosion of a metal surface by making the surface the cathode of an electrochemical cell. This protection renders a metallic container or piping component negatively charged with respect to its environment. This protection shall be designed by a corrosion expert as defined by these rules.
(j) "Cathodic protection tester" means a person who can demonstrate an understanding of the principles and measurements of all common types of cathodic protection systems applicable to metal piping and container systems and who has education and experience in soil resistivity, stray current, structure-to-soil potential, and component electrical isolation measurements of metal piping and container systems. The person shall be certified as being qualified by the national association of corrosion engineers (NACE) international.

"Composite container" means a container fabricated of 2 or more materials that interact to facilitate the container design criteria.
(l) "Compression discharge pressure" means the varying pressure at the point of discharge from the compressor.
(m) "CGA" means the compressed gas association.
"Container" means a pressure vessel or cylinder used to store H_2.
"Container appurtenances" means devices connected to container openings for safety, control, or operating purposes.
"Container system" means a container or combination of containers and all attached appurtenances, valves, and piping.
"Container valve" means a valve connected directly to the container outlet.
(r) "Continuous gas detection system" means a gas detection system in which the instrument is maintained in continuous operation.
(s) "Corrosion expert" means a person who, by reason of thorough knowledge of the physical sciences and the principals of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control of container systems. The person shall be certificated as being qualified by NACE, as a senior corrosion technologist, a cathodic protection specialist, or a corrosion specialist or be a registered engineer who has certification and licensing that includes education and experience in corrosion control.
(t) "Corrosion protection" means protecting a container system to prevent the degradation of the metal through oxidation or reactivity with its environment.
(u) "Cryogenic fluid" means a fluid with a boiling point lower than -130 degrees Fahrenheit (-90 degrees Celsius) at an absolute pressure of 101.325 kPa (14.7 psia).
(v) "Cylinder" means a container constructed in accordance with the United States Department of Transportation specifications, Title 49, code of federal regulations (CFR), parts 171-190.
"Department" means the department of environmental quality.
"Director" means the director of the department of environmental quality.
"Dispensing station" means an H_2 installation that dispenses H_2 from storage containers into fuel supply containers or into portable cylinders by means of a compressor, reformer, vaporizer, or pressure booster.
"Emergency shutdown device (ESD)" means a device that closes all fueling operations within the fueling facility from either local or remote locations.
(aa) "Excess flow control" means to limit or stop the flow of H_2 gas from a source of supply, when there is a rupture, break, or 'open valve to atmosphere' condition that may present a hazard to personnel or the environment.
(bb) "Fail-safe" means a design feature that provides for the maintenance of safe operating conditions in the event of a malfunction of control devices or an interruption of an energy source.
(cc) "Fixed liquid level device" means a device that indicates when the container is filled to its maximum permitted liquid filling volume.
(dd) "Flow-through process container" means a container that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process and the container is utilized to carry out or control the heating, cooling, mixing, blending, separating, metering, or chemical reaction of materials. The processing is done on a regular basis and it is the primary function of the container. A flow-through process container does not include a container that is used for the storage of materials before its introduction into the production process or for the storage of finished products or by-products from the production process or a container that is only used to recirculate materials.
(ee) "Fuel dispenser system" means all the pumps, meters, piping, hose, and controls used for the delivery of fuel.

(ff) "Fueling connector" means a mating device at the refueling station, including shutoff valves that connect the fueling dispenser hose to the vehicle fuel filling system receptacle for the transfer of liquid or vapor.
(gg) "Gallon water capacity (wc)" means the amount of water in gallons at 60 degrees Fahrenheit (15.6 degrees Celsius) required to fill a container.
(hh) "Gas detection system" means a grouping of 1 or more sensors capable of detecting an H_2 leak at specified concentrations and activating alarms and safety systems.
(ii) "Gaseous H_2 system" means a system in which the H_2 is delivered, stored, and discharged in the gaseous form including the piping system. The gaseous H_2 system terminates at the point where the H_2 is dispensed.
(jj) "Hydrogen (H_2)" means the simplest and lightest element in the known universe, which exists as a gas except at low cryogenic temperatures. H_2 gas is a colorless, odorless and highly flammable gas when mixed with oxygen over a wide range of concentrations. H_2 forms water when combusted, or when otherwise joined with oxygen, as within a fuel cell.
(kk) "Hydrogen code" means the storage and handling of gaseous and liquefied H_2 rules as promulgated by the department.
(ll) "Hydrogen gas vehicle (HGV) or vehicle" means a self-propelled device on land; in, on, or by which any person or property is or may be transported or drawn upon, except for a device exclusively moved by human power; and which has the capability to use H_2 gas as an engine fuel.
(mm) "Ignition source" means any item or substance capable of an energy release of type and magnitude sufficient to ignite any flammable mixture of gases or vapors that could occur at the site.
(nn) "kPa" means absolute pressure in kilo-Pascals.
(oo) "kPag" means gauge pressure in kilo-Pascals.
(pp) "Labeled" means equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the department and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with accepted or approved standards of construction and or performance.
(qq) "Liquefied hydrogen system" means a system into which liquefied H_2 is delivered and stored and from which it is discharged in the liquid or gaseous form including the piping system. The liquid or gaseous H_2 system terminates at the point where the H_2 is dispensed.
(rr) "Listed" means equipment, materials, or services included in a list published by an organization that is acceptable to the department and concerned with evaluation of products or services, that maintains periodic inspection of production listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.
(ss) "Manifolded storage system" means storage in containers arranged in banks where each bank acts as 1 large container. The banks are separated by switching valves to provide sequential drawdown of the banks. The bank may consist of 1 or more containers.
(tt) "Manual emergency shutoff valve" means a designated valve designed to shut off flow due to a rupture in pressurized piping system.
(uu) "Maximum allowable working pressure (MAWP)" means the maximum pressure to which any component or portion of the pressure system can be subjected.
(vv) "Maximum operating pressure (MOP)" means the steady-state gauge pressure at which a part or system normally operates.
(ww) "Metal hydride storage system" means a system for the storage of H_2 gas absorbed in solid material.

(xx) “Motor fuel dispensing facility” means that portion of the property where H_2 is stored and dispensed from fixed equipment into the fuel tanks of motor vehicles or marine craft or into approved containers, including all equipment used in connection therewith.
(yy) “NACE” means the national association of corrosion engineers, international.
(zz) “Original equipment manufacturer (OEM)” means an original equipment motor vehicle manufacturer that certifies that the motor vehicle complies with applicable federal motor vehicle safety codes.
(aaa) “Partially buried container” means a container that has part of, but less than 100%, of the container surface covered with earth.
(bbb) “Point of transfer” means the point where the transfer connection is made.
(ccc) “Portable container” means a container designed to be moved readily, as distinguished from containers designed for stationary installations. Portable containers, designed for transportation with H_2 filled to their maximum filling limit, include "cylinders," "cargo tanks," and "portable tanks," all 3 of which are defined separately. Containers designed to be readily moved from 1 usage location to another, but substantially empty of product, are "portable storage containers" and are defined separately.
(ddd) “Portable storage container” means a container similar to those designed and constructed for stationary installation, designed so that it can be moved readily over the highways, substantially empty of liquefied H_2, from 1 usage location to another. Such containers either have legs or other supports attached, or are mounted on running gear, such as trailer or semitrailer chassis, with suitable supports that can be of the fold-down type, allowing them to be placed or parked in a stable position on a reasonably firm and level surface. For large-volume, limited-duration product usage, such as at construction sites and normally for 6 months or less, portable storage containers function in lieu of permanently installed stationary containers.
(eee) “Portable tank, or skid tank” means a container of more than 1,000 pounds (454 kilograms) water capacity used to transport H_2 handled as a package, that is, filled to its maximum permitted filling limit. Such containers are mounted on skids or runners and have all container appurtenances protected in such a manner that they can be safely handled as a package.
(fff) “Pressure relief device” means a pressure or temperature activated device used to prevent pressure from rising above a specified value and thereby prevent the rupture of a normally charged pressure vessel or a cylinder due to emergency or abnormal conditions.
(ggg) “Pressure vessel” means a container or other component designed in accordance with the ASME code.
(hhh) “psi” means pounds per square inch.
(iii) “psia” means pounds per square inch, absolute.
(jjj) “psig” means pounds per square inch gauge.
(kkk) “Rated pressure” means the pressure to which a component is rated provided that the MAWP is observed for temperature extremes.
(lll) “Release” means an unexpected discharge of H_2.
(mmm) “Remotely located manually activated shutdown control” means a control system that is designed to initiate shut down of the flow of gas or liquid that is manually activated from a point located some distance from the delivery system.
(nnn) “Service pressure” means the nominal gas pressure at a uniform gas temperature of 70 degrees Fahrenheit (15.6 degrees Celsius) when the equipment is properly and completely charged with gas; the nominal design pressure for which the equipment has been constructed.
(ooo) “Set pressure” means the start-to-discharge pressure for which a relief valve is set and marked.
(ppp) “Standard cubic foot (scf)” means 1 cubic foot of gas at 70 degrees Fahrenheit (21 degrees Celsius) and 14.7 psia (101 kPa).

(qqq) "Standard cubic foot per minute (scfm)" means the amount of gas flow in standard cubic feet per minute compensated for pressure and temperature.
(rrr) "Substantially empty" means a gas container of H_2 when the residual gas pressure is less than 10% of the maximum allowable working pressure of the vessel. A liquefied H_2 container is substantially empty when the liquid level within the container is less than 10% of its normal operating volume.
(sss) "Vaporizer" means a device other than a container that receives H_2 in liquid form and adds sufficient heat to convert the liquid to a gaseous state.
(ttt) "Vehicle-fueling appliance" means a self-contained listed assembly used for the compression and delivery of H_2 into vehicles including associated equipment and piping of the appliance.
1-3.1 NFPA official definitions.
Combustible liquid. A liquid having a closed-cup flash point at or above 100°F (37.8°C) and are subdivided as follows:
(a) Class II liquids include those having a flash point at or above 100°F (37.8°C) and below 140°F (60°C).
(b) Class IIIA liquids include those having a flash point at or above 140°F (60°C) and below 200°F (93.4°C).
(c) Class IIIB liquids include those having a flash point at or above 200°F (93.4°C).
Flammable liquid (Class I). Any liquid having a closed-cup flash point below 100°F (37.8°C) and having a vapor pressure not exceeding 40 psia (276 kPa) at 100°F (37.8°C).
Gallon. A standard U.S. gallon.

Limited-Combustible Material. A material, as defined in NFPA 220, *Standard on Types of Building Construction,* not complying with the definition of noncombustible material that, in the form in which it is used, has a potential heat value not exceeding 3500 Btu/lb (8141 kJ/kg) and complies with one of the following paragraphs (a) or (b). Materials subject to an increase in combustibility or flame spread rating, beyond the limits herein established, through the effects of age, moisture, or other atmospheric condition are considered combustible.
(a) Materials having a structural base of noncombustible material, with a surfacing not exceeding a thickness of $^1/_8$ in. (3.2 mm) that has a flame spread rating not greater than 50.
(b) Materials, in the form and thickness used, other than as described in (a), having neither a flame spread rating greater than 25 nor evidence of continued progressive combustion and of such composition that surfaces that would be exposed by cutting through the material on any plane would have neither a flame spread rating greater than 25 nor evidence of continued progressive combustion.
Noncombustible material. A material, as defined in NFPA 220, *Standard on Types of Building Construction,* that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors when subjected to fire or heat. Materials reported as noncombustible, when tested in accordance with ASTM E 136, *Standard Method of Test for Behavior of Materials in a Vertical Tube Furnace at 750°C,* are considered noncombustible materials.
Outdoors. Location outside of any building or structure or locations under a roof, weather shelter, or canopy provided this area is not enclosed on more than two sides.
Separate building. A detached, noncommunicating building used exclusively to house a hydrogen system.
Shall. Indicates a mandatory requirement.
Special room. A separate enclosed area that is part of or attached to another building and is used exclusively for a hydrogen system.
Standard. A document, the main text of which contains only mandatory provisions using the word "shall" to indicate requirements and which is in a form generally suitable for mandatory reference by another standard or code or for adoption into law. Nonmandatory provisions shall be located in an

appendix, footnote, or fine-print note and are not to be considered a part of the requirements of a standard.

R 29.7073 Prohibitions.
Rule 73. Sections 1-4 to 1-4.4 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Prohibitions.
Any liquefied H_2 storage container system or practice that is not in compliance with these rules shall be considered to be in violation of these rules.
Upon notification by the department, a person shall not deliver liquefied H_2 to a storage container system under any circumstances that are prohibited by these rules or if a container is not in compliance with these rules. Such notification may include a verbal or written communication or an affixed written notification on the H_2 system.
A person shall not tamper with, remove, or disregard written notification affixed to the storage container system.
An owner or operator shall not continue to use a storage container system that is causing a release and shall expeditiously empty the system or the component that is causing the release until the system is repaired or replaced.

R 29.7074 Installation application.
Rule 74. Sections 1-5 to 1-5.4 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
1-5 Installation application.
1-5.1 An application for plan review shall be submitted, on a form provided by the department, by the owner or owner's designee on behalf of the owner to the department not less than 30 days before the installation of an H_2 storage container system.
1-5.1.1 The installation application shall include all of the following information:
(a) A plot map showing all of the following within 100 feet (30.5 meters) of any portion from the container system:
(i) The location of the following:
(A) Buildings.
(B) Public roadways.
(C) Railroad mainlines.
(D) Public sidewalks.
(E) Overhead power lines.
The proposed location of the dispensing station.
The location of property lines.
The locations of existing aboveground and underground tanks storing flammable and combustible liquids, and flammable, compressed or liquefied gases.
The location of the point of transfer in relationship to all of the following:
The container.
Buildings.
Public ways.
Outdoor places of public assembly.
Driveways.
Main line railroad track center lines.
The line of adjoining property that may be built upon.

Aboveground and underground tanks storing flammable and combustible liquids and/or flammable, compressed, or liquefied gases.
(b) The construction material, the dimensions and the capacity of each container.
(c) The type of container venting and pressure relief.
(d) The compressor(s) size (psig and scfm).
(e) Container appurtenances.
(f) A piping diagram showing sizes, valves, pressure relief and fittings, and control devices.
Upon acknowledged receipt of the plans, the department shall issue a plan review report within 30 days. If the plan review report is not issued within 30 days, the installation may be constructed according to the submitted plans and shall be in compliance with these rules.
An applicant shall notify the department upon completion of the installation before the installation is placed into service. The department shall inspect the installation after receiving notification and shall certify the installation, if the requirements of the rules are met. If the inspection is not made within 2 working days, then the applicant may place the installation into service, or if intended to be underground, mounded, or partially underground, may cover the installation from sight, and shall notify the department, and shall submit a notarized affidavit to the department attesting to the fact that the installation complies with the installation application submitted and the applicable rules.
Upon the owner's request, all plans and specifications that are submitted to the department for review shall be returned after the department has certified the installation or within 30 working days after notification to the department of the completion of the installation. Plans and specifications may be marked "Confidential—Do Not Copy" at the time they are submitted.

R 29.7075 Installation application fees and annual certification.
Rule 75. Sections 1-6 to 1-6.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
1-6 Installation application fees and annual certification.
1-6.1 Only an owner of an H_2 container system for which an installation application is required to be submitted under section 1-5 of the H_2 code shall be required to pay fees as specified in 1941 PA 207, MCL 29.5.
For the purpose of assessing fees, each liquefied H_2 permanent installation, or any container filling location, shall be considered a container, as defined in section 5 of 1941 PA 207, MCL 29.5.

R 29.7076 Equivalency.
Rule 76. Sections 1-7 to 1-7.3 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
1-7 Equivalency.
1-7.1 Nothing in this H_2 code shall be intended to prevent the use of systems, methods, or devices having equivalent or superior quality, strength, fire resistance, effectiveness, durability, environmental protection capability, or safety over those prescribed by the H_2 code, if technical documentation is submitted to the department to demonstrate equivalency and the system, method, or device is approved for the intended purpose.
1-7.2 An owner or operator may make an application for a variance of rules by applying to the department with a satisfactory explanation of why compliance is not possible. The department may approve the variance request upon finding that the variance is based upon the best interest of public health, safety, and welfare, and the environment.
A person aggrieved by a final decision of the department on a request for variance or an equivalency determination may appeal to the circuit court within 21 days of receiving the decision.

R 29.7077 Personnel.
Rule 77. Sections 1-8 and 1-8.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Personnel.
In the interest of safety, all persons involved in handling H_2 shall be trained in the proper handling and operating procedures. This training shall be acceptable to the department.
Exception: This training is not required for a person dispensing H_2 *into a vehicle at an attended self-service facility.*

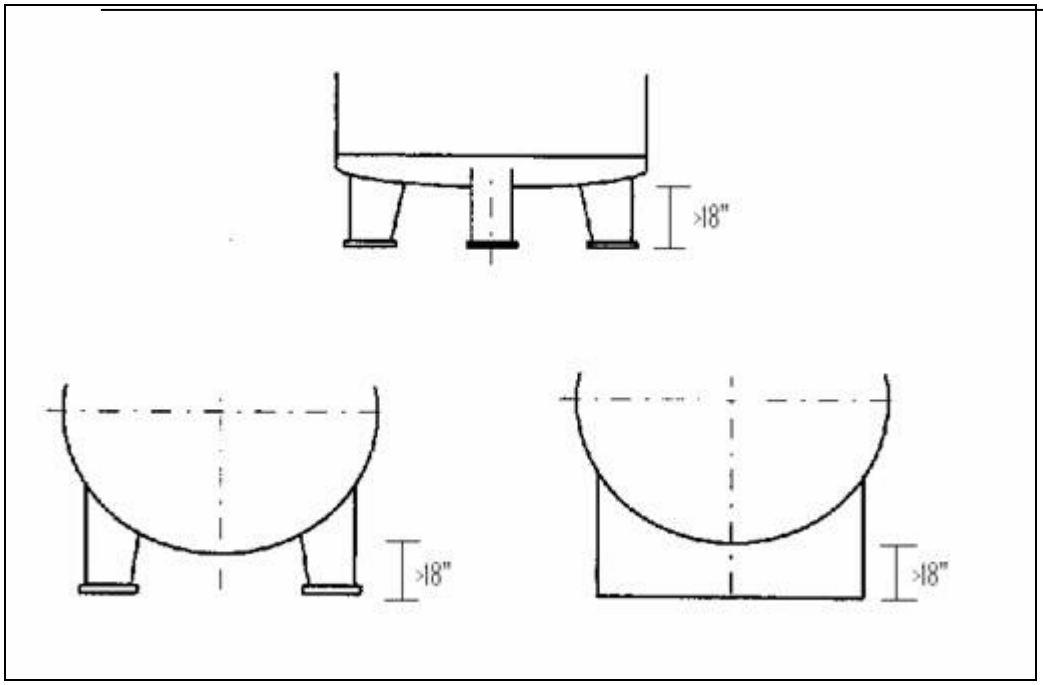
R 29.7078 Application.
Rule 78. Sections 1-9 to 1-9.4 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
1-9 Application.
1-9.1 The application of this standard at places of public assembly shall meet the requirements of section 3-2.2(a) and the approval of the department.
This standard does not apply to flow-through process containers.
When required by the department, H_2 introduced into any system covered by this code shall have a leak detection system acceptable to the department and based on the best interest of public health, safety, and welfare, and the environment.
Liquefied H_2 in fuel containers on vehicles and mobile equipment shall not be included in determining the maximum allowable quantities.

Chapter 2 Design of liquefied hydrogen systems

R 29.7079 Containers.
Rule 79. Sections 2-1 to 2-1.10.1.3 and figure 2-1.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-1 Containers.
2-1.1 H_2 containers shall comply with the following.
(a) Storage containers shall be designed, constructed, and tested in accordance with appropriate requirements of the ASME "*Boiler and Pressure Vessel Code*," section VIII, "Rules for the Construction of Pressure Vessels," adopted by reference in section 8-1.
(b) Portable containers shall be designed, constructed, and tested in accordance with title 49 *CFR*.
(c) Welding or brazing for the repair or alteration of an ASME pressure vessel shall comply with the standard adopted in section 8-1.2.1.
(d) Other welding or brazing shall be permitted only on saddle plates, lugs, or brackets which are attached to the pressure vessel by the pressure vessel manufacturer.
(e) The exchange or interchange of pressure vessel appurtenances intended for the same purpose shall not be considered a repair or alteration but must comply with these rules.
2-1.2 Permanently installed containers shall be provided with substantial supports of noncombustible material securely anchored on firm foundations of noncombustible material, and shall comply with the following subsections as applicable:
(a) Steel supports in excess of 18 inches (46 centimeters) in height shall be protected with a protective coating having a 2-hour fire resistance rating, see figure 2-1.2.
(b) If a permanently installed aboveground container is in an area that is subject to buoyant forces, provision shall be made to prevent the container, either full or empty, from floating during a rise in water level, including up to the established maximum flood stage.

(c) Horizontally installed containers shall have not more than 2 points of support longitudinally or other methods approved by the department based on the best interest of public health, safety, and welfare and the environment.
(d) Horizontally installed containers shall not be in direct contact with each other.
(e) Aboveground containers shall be protected by painting or other equivalent means where necessary to inhibit corrosion.
(f) Temperature effects. Foundations or supports that could come in contact with the cryogenic fluid in the event of a spillage, such as at fill connections, and flanges, shall be constructed of materials that are capable of withstanding the cryogenic temperature effects, such as concrete and stainless steel.
(g) Excessive loads. Stationary containers shall be supported to prevent the concentration of excessive loads causing differential settlement of the support system.
(h) Expansion and contraction. Foundations for horizontal containers shall be constructed to accommodate expansion and contraction of the container.
(i) Support of ancillary equipment. Foundations shall be provided to support the weight of ancillary equipment such as vaporizers and/or heat exchangers.

Figure 2-1.2



Marking. Liquefied H_2 containers and systems shall be marked in accordance with this section.
Portable containers. Portable containers shall be marked in accordance with CGA C-7, "*Guide to the Preparation of Precautionary Labeling and Marking of Compressed Gas Containers*," adopted by reference in section 8.
Stationary containers. Stationary containers shall be marked in accordance with NFPA 704, "*Standard Systems for the Identification of the Hazards of Materials for Emergency Response*," adopted by reference in section 8.
Identification of contents. Each container shall be marked as follows:
LIQUEFIED HYDROGEN — FLAMMABLE GAS
in letters that are not less than 3 inches (7.62 centimeters) in height.

Container specification. Stationary containers shall be marked with the manufacturing specification and maximum allowable working pressure on a permanent nameplate in accordance with the standard to which the container was manufactured.
An owner or operator that has had a container subjected to heat exposure due to an engulfing fire, a fire in which at least 25% of the container surface is exposed, shall remove the container from service, and shall not return the container to service, unless the owner or operator provides documentation to substantiate mechanical and performance integrity of the container in accordance with section 2-1.1 to the department. Such documentation shall be issued by a qualified engineer.
Guard posts or other approved means shall be provided to protect a container system subject to vehicular damage. When guard posts are installed, all of the following design specifications shall be met:
Guard posts shall be constructed of steel not less than 4 inches (10.16 centimeters) in diameter and shall be filled with concrete.
Guard posts shall be spaced not more than 4 feet (1.2 meters) on center.
Guard posts shall be set not less than 4 feet (1.2 meters) deep in a concrete footing that is not less than 15 inches (38.1 centimeters) in diameter.
Guard posts shall be not less than 4 feet (1.2 meters) in height above grade.
Other means as approved by the department based on the best interests of public health, safety, and welfare, and the environment.
2-1.6 Physical protection. Containers, piping, valves, pressure-relief devices, regulating equipment, and other appurtenances shall be protected against physical damage and tampering.
Portable containers subject to shifting or upset shall be secured. Nesting shall be permitted as a means of securing portable containers.
Overfill protection and prevention systems. An approved means or method shall be provided to prevent the overfilling of storage containers.
Vacuum level monitoring. An approved monitoring method shall be provided to indicate vacuum degradation within the vacuum jacket(s).
Underground containers. Underground containers for the storage of liquefied H_2 shall be in accordance with this subsection.
Construction. Storage containers for liquefied H_2 shall be designed and constructed in accordance with section VIII of ASME "*Boiler and Pressure Vessel Code*," adopted by reference in section 8, and shall be vacuum-jacketed in accordance with section 2-1.10.1.1.
Vacuum jacket construction. The vacuum jacket shall be designed and constructed in accordance with section VIII of ASME "*Boiler and Pressure Vessel Code,"* and shall be designed to withstand the anticipated loading, including loading from vehicular traffic, where applicable. Portions of the vacuum jacket installed below grade shall be designed to withstand anticipated soil, hydrostatic, and seismic loading.
Material. The vacuum jacket shall be constructed of stainless steel or other approved corrosion-resistant material.
Corrosion protection. The underground container shall be protected by an engineered corrosion protection system designed by a corrosion expert. If cathodic protection is used the maintenance schedule shall meet the requirements of section 5-3.

R 29.7080 Pressure relief devices.
Rule 80. Sections 2-2.1 to 2-2.5 are reproduced from NFPA 50B, and sections 2-2.6 to 2-2.16 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-2 Pressure relief devices.

2-2.1 Stationary liquefied hydrogen containers shall be equipped with pressure relief devices sized in accordance with CGA S-1.3, *Pressure Relief Device Standards — Part 3 — Compressed Gas Storage Containers*.
2-2.2 Portable liquefied hydrogen containers complying with DOT *Specifications and Regulations* shall be equipped with pressure relief devices as required in DOT *Specifications and Regulations.* Pressure relief devices shall be sized in accordance with the requirements of CGA S-1.1, *Pressure Relief Device Standards — Part 1 — Cylinders for Compressed Gases*, and CGA S-1.2, *Pressure Relief Device Standards — Part 2 — Cargo and Portable Containers for Compressed Gases.*
2-2.3 Pressure relief devices shall be arranged to discharge unobstructed to the outdoors and in such a manner as to prevent impingement of escaping liquid or gas upon the container, adjacent structures, or personnel. *(See 3-1.5 for venting of pressure relief devices in special locations.)*
2-2.4 Pressure relief devices or vent piping shall be designed or located so that moisture cannot collect and freeze in a manner that would interfere with proper operation of the device.
2-2.5 Pressure relief devices shall be provided in piping wherever liquefied hydrogen could be trapped between closures.
2-2.6 Stationary containers shall be provided with a sign, in letters not less than 1 inch (2.54 centimeters) in height, placed in proximity to the primary container pressure relief valve vent stack that warns against spraying water on or into the vent opening.
2-2.7 The pressure-relief device shall have the capacity to prevent the pressure inside the container from exceeding 110% of the maximum design pressure.
H_2 venting systems discharging to the atmosphere shall be in accordance with CGA G-5.5, adopted by reference in section 8.
Components which come in contact with cryogenic H_2 under normal operating conditions shall be suitable for operation at a temperature of -430 degrees Fahrenheit (-236 degrees Celsius).
Individual discharge lines and adapters shall be sized, located, and secured so as to permit the maximum required relief discharge capacity to minimize the possibility of physical damage. The discharge lines shall be able to withstand the pressure of the relief vapor discharge when the relief is in the full-open position.
Secondary relief devices, designed to provide additional relief in emergencies, shall be piped away from the container independently.
2-2.12 Shutoffs between pressure-relief devices and containers. Shutoff valves shall not be installed between pressure-relief devices and containers unless the valves or their use meets the requirements of this section.
2-2.12.1 Security. Shutoff valves shall be of a locking type and their use shall be limited to service-related work performed by the supplier under the requirements of ASME "*Boiler and Pressure Vessel Code*," adopted by reference in section 8.
2-2.12.2 Multiple pressure-relief devices. Shutoff valves controlling multiple pressure-relief devices on a container shall be installed so that either the type of valve installed or the arrangement provides the full required flow through the minimum number of required relief devices at all times.
2-2.13 Safety and relief valves. Pressure relief valves for liquefied H_2 systems, if externally adjustable, shall be provided with a means for sealing the adjustment to prevent tampering.
2-2.13.1 If at any time it is necessary to break such a seal, the valve shall be removed from service until it has been reset and sealed.
2-2.13.2 Adjustments shall be made only by the manufacturer or other organizations having competent personnel and facilities for the repair, adjustment, and testing of such valves.
2-2.13.3 The organization making such adjustment shall attach a permanent tag with the setting, capacity, and date.

The thermal expansion relief valve shall be installed as required to prevent overpressure in any section of a liquid or cold vapor pipeline that can be isolated by valves.
Thermal expansion relief valves shall be set to discharge above the maximum pressure normally expected in the line but less than the rated test pressure of the line it protects.
Discharge from thermal expansion relief valves shall be directed so as to minimize hazard to personnel and other equipment.
Pressure relief valves shall be tested at least every 5 years.
Exception: Thermal relief valves will not be tested.
2-2.16 Heat exchangers, vaporizers, insulation casing surrounding containers, vessels, and coaxial piping systems in which liquefied or cold vapor H_2 could be trapped shall be provided with a pressure-relief device.

R 29.7081 Piping, tubing, and fittings.
Rule 81. Sections 2-3.1, and 2-3.4 are reproduced from NFPA 50B, and sections 2-3.2, 2-3.2.1, 2-3.3, 2-3.5, 2-3.5.1, 2-3.6 to 2-3.17 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-3 Piping, tubing, and fittings.
2-3.1 Piping, tubing, and fittings, and gasket and thread sealants shall be suitable for hydrogen service at the pressures and temperatures involved. Consideration shall be given to the thermal expansion and contraction of piping systems when exposed to temperature fluctuations of ambient to liquefied hydrogen temperatures.
Material specifications and thickness requirements for piping and tubing shall conform to ASME B31.3, "*Process Piping*." Piping or tubing for operating temperatures below -20 degrees Fahrenheit (-29 degrees Celsius) shall be fabricated from materials meeting the impact test requirements of Chapter III of ASME B31.3 when tested at the minimum operating temperature to which the piping can be subjected in service.
Aluminum shall not be used with liquefied H_2 piping except for ambient air vaporizers.
2-3.3 Joints in piping and tubing shall be made by welding, brazing, or flanged. Brazing materials shall have a melting point above 1,000 degrees Fahrenheit (538 degrees Celsius). Flanged connection shall use a gasket that is suitable for H_2.
2-3.4 Means shall be provided to minimize exposure of personnel to piping operating at low temperatures and to prevent air condensate from contacting piping, structural members, and surfaces not suitable for cryogenic temperatures. Insulation shall be of noncombustible material and shall be designed to have a vaportight seal in the outer covering to prevent the condensation of air and subsequent oxygen enrichment within the insulation. The insulation material and outside shield also shall be of adequate design to prevent attrition of the insulation due to normal operating conditions.
2-3.5 Uninsulated piping and equipment that operate at liquid hydrogen temperatures shall not be installed above asphalt surfaces or other combustible materials to prevent contact of oxygen enriched liquefied air with such materials. Drip pans may be installed under uninsulated piping and equipment to control drips and vaporize condensed liquefied air.
2-3.5.1 Where insulation materials are used, the insulation shall be compatible with the equipment with which the insulation is in contact.
2-3.6 A piping system shall be substantially supported and protected against physical damage and excessive stresses arising from settlement, vibration, expansion, or contraction. Supports for aboveground piping shall be constructed of noncombustible material.
2-3.7 Aboveground piping systems shall be protected from corrosion in compliance with recognized standards. Underground piping system shall be in compliance with section 5-3.
2-3.8 Aboveground piping systems shall be marked in accordance with the following:

(a) Marking shall include the name of the gas and direction of flow arrow.
(b) Marking for piping systems shall be provided at the following locations:
(i) At each critical process control valve.
(ii) At wall, floor, or ceiling penetrations.
(iii) At each change in direction.
(iv) At a minimum of every 20 feet (6.1 meters) or fraction thereof throughout the piping run.
2-3.9 Underground piping shall be installed on a bedding of at least 6 inches (15.24 centimeters) of well-compacted backfill material.
2-3.10 In areas subject to vehicle traffic, the pipe trench shall be of sufficient depth to permit a cover of not less than 18 inches (45.72 centimeters) of well compacted backfill material and pavement.
Exception: In paved areas where a minimum of 8 inches (20.32 centimeters*) of asphalt paving is used, the depth of the backfill between the topmost tier of piping and the paving can be reduced to not less than 8 inches (20.32* centimeters*).*
Exception: In paved areas where a minimum of 6 inches (15.24 centimeters*) of reinforced concrete paving is used, the depth of backfill between the topmost tier of the piping and the paving can be reduced to not less than 4 inches (10.2* centimeters*).*
2-3.11 In areas not subject to vehicle traffic, the pipe trench shall be of sufficient depth to permit 6 inches (15.24 centimeters) each of bedding and cover of well-compacted backfill material. A greater burial depth shall be provided when required by the manufacturer's instructions.
2-3.12 Piping within the same trench shall be separated by more than 3 times the diameter of the larger adjacent pipe.
Piping to equipment shall be provided with an accessible, manual shutoff valve.
Pipe, tubing, fittings, and other piping components shall be capable of withstanding a hydrostatic test of at least 3 times the rated pressure without structural failure as documented by the manufacturer.
Underground liquefied H_2 piping shall be vacuum-jacketed. Unjacketed piping shall not be buried and shall exit the container annular space above grade.
All natural gas piping shall be installed in accordance with R 29.4601 et seq.
All liquefied petroleum gas piping shall be installed in accordance with R 29.4001 et seq.

R 29.7082 Equipment assembly.
Rule 82. Sections 2-4.1 and 2-4.2 are reproduced from NFPA 50B, and sections 2-4.3 to 2-4.8 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-4 Equipment assembly.
2-4.1 Valves, gauges, regulators, and other accessories shall be suitable for liquefied hydrogen service and for the pressures and temperatures involved.
2-4.2 Installation of liquefied hydrogen systems shall be supervised by personnel familiar with proper installation practices and with their construction and use.
Aboveground containers, piping, valves, regulating equipment, and other accessories shall be readily accessible and shall be protected against physical damage and against tampering.
An automatic emergency shutoff valve shall be located in liquid product withdrawal lines as close to the container as practical.
The automatic shutoff valve shall be provided with a remotely located, manually activated, shutdown control.
The shutoff valve shall be connected to the storage container by means of welded connections without the use of flanges, or other appurtenances except that a manual shutoff valve equipped with welded connections is allowed to be installed immediately upstream of the automatic shutoff valve to allow for maintenance of the automatic valve.

Connections downstream of the shutoff valve shall be in accordance with ASME B31.3, *"Process Piping,"* adopted by reference in section 8.
Cabinets or enclosures containing H_2 control equipment shall be ventilated to prevent any accumulations of H_2 gas.

R 29.7083 Testing.
Rule 83. Sections 2-5 and 2-5.1 are reproduced from NFPA 50B, and section 2-5.2 of the storage and handling of gaseous and Liquefied H_2 code is added as follows:
2-5 Testing.
2-5.1 After installation, all field-erected piping shall be tested and proved hydrogen gas-tight at operating pressure and temperature.
2-5.2 Containers, if out-of-service in excess of 1 year, shall be inspected and tested as outlined in 2-5.1. The pressure relief devices shall be checked to determine if they are operable, properly set, and within test service dates as per section 2-2.15.

R 29.7084 Liquefied H_2 vaporizers.
Rule 84. Sections 2-6.1 to 2-6.4 are reproduced from NFPA 50B, and sections 2-6.5 to 2-6.13 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-6 Liquefied H_2 vaporizers.
2-6.1 The vaporizer shall be anchored and its connecting piping shall be sufficiently flexible to provide for the effect of expansion and contraction due to temperature changes.
2-6.2 The vaporizer and its piping shall be protected on the hydrogen and heating media sections with pressure relief devices.
2-6.3 Heat used in a liquefied hydrogen vaporizer shall be indirectly supplied utilizing media such as air, steam, water, or water solutions.
2-6.4 A low-temperature shutoff switch or valve shall be provided in the vaporizer discharge piping to prevent flow of liquefied hydrogen in the event of the loss of the heat source.
Vaporizers shall be designed for a working pressure at least equal to the maximum discharge pressure of the pump or the pressurized system that supplies them, whichever is greater.
The discharge valve of each vaporizer, if provided, its piping components, the relief valves installed upstream of the discharge valve, the vaporizer piping, and related components shall be suitable for operation at a liquefied H_2 temperature of -423 degrees Fahrenheit (217.2 degrees Celsius).
Multiple vaporizers shall be manifolded such that both inlet and discharge block valves are installed on each vaporizer.
A low temperature switch or other accepted means shall be installed on the vaporizer discharge to eliminate the possibility of cryogenic H_2 entering gaseous H_2 containers and other equipment not designed for cryogenic H_2 temperatures.
Relief valves on heated vaporizers shall be located so that they are not subjected to temperatures exceeding 140 degrees Fahrenheit (60 degrees Celsius) during normal operation unless they are designed to withstand higher temperatures.
The combustion air required for the operation of integral heated vaporizers or the primary heat source for remote heated vaporizers shall be taken from outside an enclosed structure or building.
Installation of internal combustion engines or gas turbines shall conform to R 29.5101 et seq.
Securing of vaporizers. Vaporizers, heat exchangers, and similar equipment shall be secured to foundations, and their connecting piping shall be flexible to provide for the effects of expansion and contraction due to temperature changes.
Vaporizers and heaters shall be provided with instrumentation to monitor outlet temperatures.

Exception: Ambient pressure-building coil vaporizers that are fed with liquid from, and return vapor to, a container.

R 29.7085 Electrical systems.
Rule 85. Sections 2-7 to 2-7.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-7 Electrical systems.
2-7.1 Electrical equipment and wiring shall be specified and installed in accordance with NFPA 70, "*National Electrical Code*," adopted by reference in section 8.
Static protection shall be required when liquefied H_2 cargo transport vehicles are loaded or unloaded. This can be achieved when cargo transport vehicles or marine equipment are loaded or unloaded by grounding cable, conductive hose, flexible metallic tubing, or pipe connections where both halves of metallic couplings are in contact.

R 29.7086 Bonding and grounding.
Rule 86. Section 2-8 is reproduced from NFPA 50B as follows:
2-8 Bonding and grounding. The liquefied hydrogen container and associated piping shall be electrically bonded and grounded.

R 29.7087 Approval.
Rule 87. Sections 2-9 and 2-9.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-9 Approval.
Systems and all system components shall be listed or approved, including, but not limited to all of the following:
A container.
A pressure relief device, including a pressure relief valve.
A pressure gauge.
A pressure regulator.
A valve.
(f) A vaporizer.
(g) A hose and hose connection.
(h) A vehicle fueling connection.
(i) Electrical equipment related to the H_2 system.
(j) A dispenser.
(k) Emergency shutoff valves.
(l) Metal hydride storage.
(m) Gas detection equipment and alarms.
H_2 generators.
Pumps or compressors.
Stationary engine fuel system.

R 29.7088 Pressure gauges.
Rule 88. Sections 2-10 to 2-10.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Pressure gauges.
A pressure gauge, if provided, shall be capable of reading at least 1.2 times the system MAWP.
Pressure gauges shall be installed on each pump and compressor discharge.

R 29.7089 Pressure regulators.
Rule 89. Sections 2-11 to 2-11.3 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-11 Pressure regulators.
2-11.1 A pressure regulator inlet and each chamber shall be designed for its service pressure with a safety factor of at least 3.
2-11.2 Pressure chambers shall provide for overpressure relief, if required.
2-11.3 Regulators shall be designed, installed, or protected so that their operation is not affected by freezing rain, sleet, snow, ice, mud, insects, or debris. Regulator protection shall be permitted to be integral with the regulator.

R 29.7090 Valves.
Rule 90. Sections 2-12 to 2-12.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-12 Valves.
2-12.1 Shutoff valves shall have a rated service pressure not less than the rated service pressure of the entire system and shall be capable of withstanding a hydrostatic test of at least 3 times the rated service pressure without rupture.
2-12.1.1 Leakage shall not occur when tested at least 1.1 times the rated service pressure, using an inert gas compatible with industry practices.
2-12.2 Valves of a design that allows the valve stem to be removed without removal of the complete valve bonnet or without disassembly of the valve body shall not be used.

R 29.7091 Hose and hose connections.
Rule 91. Sections 2-13 to 2-13.6 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-13 Hose and hose connections.
2-13.1 Hose shall be constructed of or lined with materials that are resistant to corrosion and compatible with H_2.
2-13.2 Hose, metallic hose, flexible metal hose, tubing, and their connections shall be designed for the most severe pressures and temperatures expected under normal operating conditions with a burst pressure of at least 3 times the service pressure.
2-13.3 Prior to use, hose assemblies shall be tested by the manufacturer or its designated representative at a pressure at least 1.1 times the service pressure.
Hose and metallic hose shall be distinctly marked by the manufacturer either by the manufacturer's permanently attached tag or by distinct markings indicating the manufacturer's name or trademark, applicable service identifier and design pressure.
The use of hose in an installation shall be limited to the following:
Vehicle fueling hose.
Inlet connection to compression equipment.
Section of metallic hose not exceeding 36 inches (1 meter) in length in the pipeline to provide flexibility where necessary.
Transfer hoses for connecting the mobile supply equipment to a local storage system.
2-13.6 Each section shall be so installed that it is protected against mechanical damage and is readily visible for inspection.

R 29.7092 Vehicle fueling connection.

Rule 92. Sections 2-14 to 2-14.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-14 Vehicle fueling connection.
2-14.1 Fueling receptacles and nozzles for liquefied H_2 service shall be in accordance with a standard acceptable to the department based on the best interest of public health, safety, and welfare, and the environment.
2-14.2 The use of adapters shall be prohibited.

R 29.7093 Stationary pumps and compressors.
Rule 93. Sections 2-15 to 2-15.5 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-15 Stationary pumps and compressors.
Valves shall be installed such that each pump or compressor can be isolated for maintenance. Where pumps or centrifugal compressors are installed for operation in parallel, each discharge line shall be equipped with a check valve to prevent the backflow of liquid from 1 system to the other.
Foundations for cryogenic pumps or compressors shall be designed and constructed to prevent frost heaving.
Operation of all pumps and compressors shall cease when the facility's emergency shutdown device (ESD) system is initiated.
Each pump shall be provided with an adequate vent or relief valve that will prevent over pressurizing of the pump case under normal conditions including the maximum possible rate of cool down.
Vents shall be piped outside of buildings to a point of safe discharge.

R 29.7094 Liquefied H_2 to gaseous H_2 systems.
Rule 94. Sections 2-16 to 2-16.4 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Liquefied H_2 to gaseous H_2 systems.
Section 2-16 shall apply to the design, construction, installation, and operation of equipment used to produce gaseous H_2 from liquefied H_2.
Gaseous H_2 storage containers and equipment located downstream of liquefied H_2 containers are not regulated by section 2-16. Gaseous H_2 storage containers and equipment shall comply with part 2 of these rules.
In addition to the emergency shutdown systems described in section 7-6, the emergency shutdown system shall also shut off the liquid supply and power to the liquefied H_2 transfer equipment necessary for producing gaseous H_2 from liquefied H_2.
Transfer piping, pumps, and compressors shall be protected from vehicle collision damage and shall comply with section 2-1.5.

R 29.7095 Temporary installations.
Rule 95. Sections 2-17 and 2-17.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
2-17 Temporary installations.
2-17.1 ASME or U.S. DOT containers that are used as portable storage containers, see definition of portable container in section 1-5, for temporary, less than 6 months at any given location, stationary service shall comply with the following:
(a) If mounted on legs or supports, then such supports shall be of steel and either shall be welded to the container by the manufacturer at the time of fabrication or shall be attached to lugs that have been so welded to the container. The legs or supports or the lugs for the attachment of these legs or supports

shall be secured to the container in accordance with the code or rule under which the container was designed and built, to withstand loading in any direction equal to twice the weight of the empty container and attachments.
(b) If the container is mounted on a trailer or semitrailer running gear so that the unit can be moved by a conventional over-the-road tractor, then attachment to the vehicle, or attachments to the container to make it a vehicle, shall comply with the appropriate U.S. DOT requirements for cargo tank service. The unit also shall comply with applicable state and U.S. DOT motor carrier regulations and shall be approved by the department.

R 29.7096 Indoor fueling.
Rule 96. Section 2-18 of the storage and handling of gaseous and Liquefied H_2 code is added as follows:
2-18 Indoor fueling. Indoor fueling of liquefied H_2 is not permitted unless department approved.

Chapter 3 Location of liquefied hydrogen systems

R 29.7097 General requirements.
Rule 97. Sections 3-1.1 and 3-1.3 to 3-1.5 are reproduced from NFPA 50B, and sections 3-1.2, 3-1.6 to 3-1.13 of the storage and handling of gaseous and Liquefied H_2 code is added as follows:
3-1 General requirements.
3-1.1 The storage containers shall be located so that they are readily accessible to mobile supply equipment at ground level and to authorized personnel. Roadways or other means of access for emergency equipment, such as fire department apparatus, shall be provided.
3-1.2 Systems shall not be located beneath or where exposed by failure of the following:
(a) Electric power lines as follows:
(i) Not less than 50 feet (15.2 meters) horizontally from the vertical plane below the nearest overhead wire of an electric trolley, train, or bus line.
(ii) Not less than 5 feet (1.5 meters) horizontally from the vertical plane below the nearest overhead electrical wire.
(b) Piping containing all classes of flammable and combustible liquids
(c) Piping containing oxidizing materials
3-1.3 Where a liquefied hydrogen container is installed on ground that is level with or lower than the adjacent storage of all classes of flammable and combustible liquid or liquid oxygen, suitable protective means shall be taken to prevent accumulation of liquids within 50 ft (15.2 m) of the liquefied hydrogen container. Protective means shall include diking, diversion curbs, or grading of the flammable and combustible liquid storage or liquid oxygen storage.
3-1.4 Storage sites shall be fenced and posted to prevent entrance by unauthorized personnel. Sites also shall be placarded as follows:
LIQUEFIED HYDROGEN FLAMMABLE GAS
NO SMOKING — NO OPEN FLAMES
3-1.5 If liquefied hydrogen is located (as specified in table 3-2.1) in a separate building, in a special room, or inside buildings where not in a special room or exposed to other occupancies, containers shall have the pressure relief devices vented unobstructed to the outdoors at a minimum elevation of 25 ft (7.6 m) above grade to a safe location as required in 2-2.3.
Underground systems shall be located underground, mounded, or partially buried and outside of any buildings. Buildings shall not be constructed over any underground, mounded, or partially buried container. Sides of adjacent containers shall be separated by not less than 3 feet (1 meter).
(a) Excavation for underground, mounded, or partially buried containers shall be made with due care to avoid damage to an existing structure or its foundation. Containers shall not be installed where

loads from adjacent structures may be transmitted to the container. A structure or foundation of a structure on the same property shall not be erected or constructed within 10 feet (3.1 meters) of any point on the container surface, unless the footings extend to the bottom of the container. A container shall not be installed less than 10 feet (3.1 meters) from the nearest wall of any basement, pit, or property line.

All underground containers shall be set on firm foundation and surrounded with 6 inches (15.24 centimeters) minimum of noncorrosive inert material such as clean sand or pea gravel.

Underground or mounded containers shall be covered with not less than 2 feet (60.96 centimeters) of earth or with not less than 1 foot (30.48 centimeters) of earth on top of which shall be placed a reinforced concrete slab not less than 4 inches (10.16 centimeters) thick. If containers are likely to be subjected to traffic, they shall be protected against damage from vehicles passing over them by at least 3 feet (1 meter) of earth cover plus 6 inches (15.24 centimeters) of reinforced concrete. When reinforced concrete paving is used as part of the protection, it shall extend at least 1 foot (30.48 centimeters) horizontally beyond the outline of the container in all directions.

(a) The vertical extension of the vacuum jacket required for service connections shall be allowed to extend above grade.

Containers installed in an area subject to flooding, high water table, or other buoyant forces shall be safeguarded from movement by anchoring or other means acceptable to the department based on the best interests of public health, safety, and welfare and the environment.

Where a liquefied H_2 container is installed on ground that is level with or lower than the adjacent storage of all classes of flammable and combustible liquid or liquid oxygen, suitable protective means shall be taken to prevent accumulation of liquids within 50 feet (15.2 meters) of the liquefied H_2 container. Protective means shall include diking, diversion curbs, or grading of the flammable and combustible liquid storage or liquid oxygen storage.

Aboveground liquefied H_2 systems shall be fenced and posted to prevent entrance by unauthorized personnel.

Exception: Liquefied H_2 *dispensers may be located outside the fence.*

Underground installations shall be deemed to provide engineered protection from overhead power lines.

3-1.13 Venting of underground containers. Venting systems for underground storage containers shall be in accordance with CGA G-5.5, adopted by reference in section 8.

R 29.7098 Specific requirements.

Rule 98. Sections 3-2.1, 3-2.4 and table 3-2.1 are reproduced from NFPA 50B, and sections 3-2.2, 3-2.2.1, 3-2.3, 3-2.5 to 3-2.8 and table 3-2.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:

3-2 Specific requirements.

3-2.1 The location of liquefied hydrogen storage, as determined by the maximum total quantity of liquefied hydrogen, shall be in the order of preference indicated by the Roman numerals in table 3-2.1.

Table 3-2.1
Preferred Locations of Liquefied Hydrogen Systems

Nature of Location	Size of Hydrogen Storage			
	39.63 gal to 50 gal (150 L to 189.25 L)	51 gal to 300 gal (193.03 L to 1135.5 L)	301 gal to 600 gal (1139.29 L to 2271 L)	In excess of 600 gal (2271 L)

Outdoors	I	I	I	I
In a separate building	II	II	II	Not permitted
In a special room	III	III	Not permitted	Not permitted
Inside buildings Not in a special room or exposed to other occupancies	IV	Not permitted	Not permitted	Not permitted

3-2.2 The minimum distance in feet from liquefied H_2 systems of indicated storage capacity located either outdoors, in a separate building, or in a special room to any specified exposure shall be in accordance with table 3-2.2.

Exception: The distances in numbers 1, 4, 6, 7, 8, and 11 in table 3-2.2 may be reduced by 2/3, but not to less than 5 feet (1.5 meters), for insulated portions of the systems. For uninsulated portions of the system, the distances may be reduced by the use of protective structures having a minimum fire resistance rating of 2 hours. The protective structure or the insulated liquefied H_2 *container shall interrupt the line of sight between uninsulated portions of the liquefied* H_2 *storage system and the exposure*.

(a) An aboveground H_2 storage container system shall be erected per table 3-2.2 but not less than 75 feet (22.9 meters) from any of the following:

(i) A school.

(ii) A church.

(iii) A hospital.

(iv) A theater.

(v) Assembly occupancy for 50 or more persons.

Exception: The restrictions in section 3-2.2(a) shall not apply to an aboveground H_2 *system used exclusively for stationary power generation.*

Loose or piled combustible materials and weeds and long dried grass shall not be permitted within 10 feet (3.1 meters) of any system.

Table 3-2.2
Minimum Distance from Liquefied Hydrogen Systems to Exposures

Type of Exposure	Total Liquefied H_2 Storage		
	39.63 gal to 3,500 gal (ft)	3,501 gal to 15,000 gal (ft)	15,001 gal to 75,000 gal (ft)
1. Building or structure (a) Wall(s) adjacent to system constructed of non-combustible or limited-combustible materials (1)Sprinklered building or structure or unsprinklered building or structure having noncombustible contents	5[a]	5[a]	5[a]
(2) Unsprinklered building or structure with combustible contents. Adjacent wall(s) with fire resistance rating less than 3 hours[b]	25	50	75

Adjacent wall(s) with fire resistance rating of 3 hours or greater[b]	5	5	5
(b) Wall(s) adjacent to system constructed of combustible materials (1) Sprinklered building or structure	50	50	50
(2) Unsprinklered building or structure	50	75	100
2. Wall openings (a) Openable	75	75	75
(b) Unopenable	25	50	50
3. Air compressor intakes or inlets for air-conditioning or ventilating equipment	75	75	75
4. All classes of flammable and combustible liquid containers (above ground, and vent or fill openings if below ground) *(see 3-1.3)*[c]	50	75	100
5. Between stationary liquefied H_2 containers	5	5	5
6. Flammable gas storage other than H_2	50	75	75
7. Liquid oxygen storage and other oxidizers *(see 3-1.3)*	75	75	75
8. Combustible solids	50	75	100
9. Open flames and welding	50	50	50
10. Places of public assembly for 50 or more persons	75	75	75
11. Public ways, railroads, and property lines	25	50	75
12. Inlet to underground sewers	10	10	10
13. Places of public assembly less than 50 people	25	50	50
14. Flammable/Combustible liquid dispenser other than H_2	10	10	10
For SI units: 1 ft = 0.305 m; 1 gal = 3.785 L. a Portions of wall less than 10 ft (3 m) (measured horizontally) from any part of a system shall have a fire resistance rating of at least 1/2 hour. b Exclusive of windows and doors. c Distances can be reduced to 15 ft (4.6 m) for class IIIB combustible liquids.			

3-2.3 Cargo transport unloading. Unloading connections on delivery equipment shall not be positioned closer to any of the exposures cited in table 3-2.2 than the distances given for the storage system. The following shall apply:

(a) For stationary container system installations or stationary multiple container systems utilizing a common or manifolded transfer line, or railroad tank car transfer systems to fill trucks with no stationary storage involved shall comply with all of the following:

(i) Owners and operators shall ensure that fixed piping is used between the container and master shutoff and check valves. The piping and manifolds shall be secured to the container frame. Flexible hoses are permitted between the check valve and the cargo vehicle unloading connection.

Exception: Bulkheads will be located at a minimum of 1.5 feet (45.72 centimeters*) when crash protection is provided at 10 feet (3.1 meters) from storage container.*

(ii) Emergency shutoff valves required in this section shall be tested annually for proper operation. The results of the tests shall be documented.

(iii) All installations shall have at least 1 clearly identified and easily accessible manually operated remote emergency shutoff device. Within 1 year after the effective date of these rules, existing installations shall have at least 1 clearly identified and easily accessible manually operated remote emergency shutoff device. The emergency shutoff device shall be located not less than 20 feet (6.1 meters) nor more than 100 feet (30.5 meters) in the path of egress from the emergency shutoff valve and not less than 20 feet (6.1 meters) from the container system.
(iv) During transfer of H_2 to and from cargo vehicles, the hand or emergency brake of the vehicle shall be set, and chock blocks shall be used to prevent rolling of the vehicle.
(v) Transfer systems shall be capable of depressurizing to facilitate disconnection. Bleed connections shall lead to a safe point of discharge.
(vi) Cargo vehicle shall be equipped with air-brake interlock in front of the unloading connection to protect against drive-away.
(b) The delivery vehicle shall be located so that all parts of the vehicle are on the premises when delivery is made, and shall comply with all of the following:
(i) Vent connections shall be provided so that loading arms and hoses can be depressurized and vented prior to disconnection if necessary. The connections for liquefied H_2 shall be piped to a vent stack in accordance with part 2, section 2-2.2.
(ii) When transfers are made into fueling facility containers, the liquefied H_2 shall be transferred at a pressure that shall not over-pressurize the receiving container.
(iii) The transfer piping shall be equipped with a check valve to prevent backflow from the container being filled to the transport vehicle. Check valve shall be located as close as practicable to the container.
(iv) If the fueling facility container or transfer equipment is located in a remote area relative to the delivery vehicle operating status indicators, that is those that indicate container level, these container status indicators shall be provided in the unloading area.
(v) At least 1 qualified person shall be in continuous attendance and shall have an unobstructed view of the transfer point while unloading is in progress.
(vi) Sources of ignition shall not be permitted in the unloading area while transfer is in progress.
(vii) The cargo transport vehicle's engine shall be shut off while the transfer hose or piping is being connected or disconnected. If required for liquefied H_2 trailer pumping transfer, the engine pump drive motor may be started and used during the liquid transfer operations.
3-2.4 The minimum distance of container fill connections from parked vehicles shall be 25 ft (7.6 m).
3-2.5 An owner and operator shall ensure that ~~a~~ container systems are properly designed and constructed in accordance with the ASME and that any portion, which is underground, mounded, or partially underground, is protected from corrosion by either of the following:
(a) The ASME approved container system is cathodically protected by all the following requirements:
(i) The ASME approved container system is coated with a suitable dielectric material approved by the department.
(ii) Factory-installed or field-installed cathodic protection systems are designed by a corrosion expert or in accordance with the NACE recommended practice RP0285 entitled *"Corrosion Control of Underground Storage Tank Systems by Cathodic Protection"* or impressed current systems are designed to allow a determination of current operating status as required in section 5.4-1 of the H_2 code.
(iii) Cathodic protection systems are operated and maintained in accordance with the provisions of section 5.4-1 of the H_2 code.
(b) Other methods as approved by the department and in the best interest of public health, safety, and welfare, and the environment.
3-2.6 Out-of-service aboveground containers.

3-2.6.1 Containers that are no longer in service for a period of 12 months shall be closed. To close the aboveground container, the owner or operator shall empty the container, purge it with an inert gas and safeguard it against tampering. Piping that is removed from service shall be purged with an inert gas and capped or removed.
3-2.6.2 Each container that is to be reused at the original location or a new location shall be purged with an inert gas and be in compliance with all the requirements for the installation of a new container, and shall be recertified by the manufacturer, or authorized representative, and tested in accordance with the container's design specifications or be pressure tested with an inert gas or H_2 at 1.1 times the MOP for not less than 10 minutes. Piping that is to be reused shall be in compliance with all the requirements for the installation of new piping and shall be tested in compliance with section 3-2.8 of this code prior to being brought back into service.
3-2.7 Out-of-service underground, mounded, and partially buried containers.
3-2.7.1 Containers that are no longer used to store H_2 and are not intended to be brought back into service shall be permanently closed. To permanently close the container, the container shall be emptied and purged with an inert gas to render the container free of H_2, and then the container shall be removed from the ground. When a structure above or near the container prevents removal, the container shall be emptied and purged with an inert gas to render the container free of H_2, then the container shall be filled with an inert solid material. Piping that is permanently removed from service shall be purged with an inert gas and capped or removed.
3-2.7.2 Containers may be rendered temporarily out-of-service only when it is intended they be brought back into service at a later date. To temporarily close a container, all of the following requirements shall be met:
(a) The container shall be emptied and purged with an inert gas.
(b) Corrosion protection for the container and all underground piping shall be maintained in compliance with section 5-4.1 of this code.
(c) The vent line shall remain functional.
(d) The container shall be secured against tampering.
(e) Piping that is temporarily removed from service shall be purged with an inert gas and capped.
3-2.7.2.1 Each container that is temporarily out-of-service greater than 12 months shall be pressure tested with an inert gas at 1.1 times the MOP for not less than 10 minutes prior to being brought back into service. Temporarily out-of-service piping shall be tested in compliance with section 3-2.8 of this code prior to being brought back into service.
3-2.8 Testing. After installation, prior to being placed into service, all container connections, piping, tubing, hose, and hose assemblies shall be tested by an approved method as outlined in ASME B31.3 *"Process Piping,"* adopted by reference in section 8, or by a method acceptable to the department based on the best interest of public health, safety, and welfare, and the environment.

R 29.7099 Handling of liquefied H_2 inside buildings other than separate buildings and special rooms.
Rule 99. Sections 3-3 and 3-3.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Handling of liquefied H_2 inside buildings other than separate buildings and special rooms.
3-3.1 Portable liquefied H_2 containers of 50-gallons (189-Liters) or less capacity as permitted in Table 3-2.1 and in compliance with section 3-1.5 where housed inside buildings not located in a special room and exposed to other occupancies shall comply with the following minimum requirements.
(a) Containers shall be located 20 feet (6.1 meters) from all classes of flammable and combustible liquids and readily combustible materials such as excelsior or paper.
(b) Containers shall be located 15 feet (4.6 meters) from ordinary electrical equipment, and 25 feet (7.6 meters) from open flames, welding or other sources on ignition.

(c) Containers shall be located 50 feet (15 meters) from storage of oxidizing gases.
(d) Containers shall be protected against damage or injury due to falling objects or work activity in the area.
(e) Containers shall be firmly secured and stored in an upright position and protected against damage in accordance with the provisions of section 2-1.7.
(f) Pressure relief devices on the containers shall be vented directly outdoors or to a hood that is suitable for flammable and combustible vapors.

R 29.7100 Location of dispensing operations and equipment.
Rule 100. Sections 3-4 to 3-4.4 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Location of dispensing operations and equipment.
Dispensing equipment located outdoors shall be in accordance with the following:
Dispensing equipment shall be allowed under weather protection in accordance with the requirements of section 4-5 and constructed in a manner that prevents the accumulation of H_2 gas.
Dispensing equipment shall not be beneath electric power lines or where exposed by their failure, and shall be a minimum of 10 feet (3.1 meters) from the nearest important building or property line or 20 feet (6.2 meters) from any activity that involves a fixed source of ignition.
Dispensing equipment shall be located so that all parts of the vehicle being served are on the premises of the motor fuel dispensing facility.
Dispensing equipment shall be protected against collision damage by means acceptable to the department. Dispensing devices shall be securely bolted in place. Dispensing devices shall be installed in accordance with manufacturer's instructions.

R 29.7101 Installation of emergency shutdown equipment.
Rule 101. Sections 3-5 to 3-5.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Installation of emergency shutdown equipment.
Breakaway protection shall be provided in a manner such that, if a pullaway event occurs, liquefied H_2 will cease to flow at any separation.
A breakaway device shall be installed at every dispensing point. Such a device shall be arranged to separate by a force not greater than 150 pounds (75 kilograms), when applied in any direction that the vehicle would move. Breakaway devices shall be compatible with a standard acceptable to the department.

Chapter 4 Design considerations at specific locations

R 29.7102 Outdoor locations.
Rule 102. Sections 4-1 to 4-1.4 are reproduced from NFPA 50B as follows:
4-1 Outdoor locations.
4-1.1 Roadways and yard surfaces located below liquefied hydrogen piping as well as areas under the fill connections and delivery vehicle's uninsulated hydrogen piping from which liquid air can drip shall be constructed of noncombustible materials. For the purposes of this standard, asphaltic and bitumastic paving shall be considered combustible. If expansion joints are used, fillers also shall be of noncombustible materials.
4-1.2 If walls, roofs, weather shelters, or canopies are provided, they shall be constructed of noncombustible or limited-combustible materials.
4-1.3 Electrical wiring and equipment shall comply with section 2-7.

4-1.4 Lighting shall be provided for nighttime transfer operation.

R 29.7103 Specific requirements.
Rule 103. Sections 4-2 to 4-2.2.3 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
4-2 Specific requirements.
The location of liquefied H_2 storage, as determined by the maximum total quantity of liquefied H_2, shall be in accordance with table 3-2.1.
Installation of liquefied H_2 inside buildings other than detached buildings and gas rooms.
4-2.2.1 More than 1 system of 50 gallons (189.5 liters) or less capacity may be installed in the same room or area outside of special rooms located as allowed in table 3-2.1 and in compliance with section 4-2.1, provided the systems are separated by at least 50 feet (50.2 meters) or by a full height fire-resistive partition having a minimum fire resistance rating of 2 hours is located between the systems.
The separation distance between multiple systems of 50 gallons (189.5 liters) or less may be reduced to 25 feet (7.6 meters) in buildings where the space between storage areas is free of combustible materials and protected with a sprinkler system.
When sprinkler protection is provided, the area in which the H_2 is stored or used shall be protected with a sprinkler system designed to be not less than that required by NFPA 13 for extra hazard group 1 with a minimum design area of 2,500 square feet (762 square meters).

R 29.7104 Separate buildings.
Rule 104. Sections 4-3 to 4-3.5 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
4-3 Separate buildings.
4-3.1 Separate buildings containing more than 300 gallons (1137 liters) of liquefied H_2 shall be constructed of noncombustible or limited-combustible materials on a substantial frame. Walls and roofs shall be lightly fastened. All venting elements shall be designed to relieve at a maximum pressure of 25 pounds/square foot. Doors shall be located in such a manner that they are readily accessible to personnel in an emergency.
Exception: Window glazing may be of plastic.
Exception: Explosion venting shall be in accordance with section 4-4.3.
Ventilation to the outdoors shall be provided. Inlet openings shall be located within 18 inches (45.72 centimeters) of the floor in exterior walls only. Outlet openings shall be located at the high point of the room in exterior walls or roof. Both the inlet and outlet vent openings shall have a minimum total area of 1 square foot/1000 cubic foot (0.3 square meters/305 cubic meters) of room volume. Discharge from outlet openings shall be directed or conducted to a location that allows for dissipation of the exhaust air in the ambient surroundings away from air intakes and occupied spaces.
4-3.3 There shall be no sources of ignition within the room or area where the H_2 system is installed.
4-3.4 Electrical wiring and equipment shall comply with section 2-7.
Exception: All electrical wiring and equipment in the separate building shall be class I, division 2, group B.
4-3.5 Heating, if provided, shall be by indirect means such as steam or hot water.
Exception: Electrical heating shall be in accordance with section 4-3.4.

R 29.7105 Special rooms.
Rule 105. Sections 4-4 to 4-4.9.1, and table 4-4.9 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
4-4 Special rooms.

4-4.1 Floors, walls, and ceiling shall be constructed of noncombustible or limited-combustible materials. Interior walls or partitions shall have a fire resistance rating of at least 2 hours, shall be continuous from floor to ceiling, and shall be securely anchored. At least 1 wall shall be an exterior wall. Windows and doors shall be located so as to be readily accessible in case of emergency.
Exception: Window glazing may be of plastic.
Access from within the primary structure shall be made through 1 vapor-sealing, 2 hour, self-closing fire door.
4-4.2 Ventilation shall be provided as in section 4-4.3.
4-4.3 Deflagration venting shall be provided in exterior walls or roof only.
4-4.3.1 Vents shall be any 1 or any combination of the following:
(a) Walls of light material.
(b) Lightly fastened hatch covers.
(c) Lightly fastened, outward opening doors in exterior walls.
(d) Lightly fastened walls or roof.
(e) Other methods in accordance with NFPA 69, adopted by reference in section 8.
Where applicable, snow loads shall be considered.
4-4.3.3 The venting area shall be equal to not less than 1 cubic foot/30 cubic feet (1 cubic meter/9 cubic meters) of room volume.
4-4.4 There shall be no sources of ignition.
4-4.5 Electrical wiring and equipment shall comply with section 2-7, except that all electrical wiring and equipment in the special room shall be class I, division 2, group B.
4-4.6 Heating, if provided, shall be by steam, hot water, or other indirect means.
Exception: Electrical heating shall be in accordance with section 4-4.5.
4-4.7 Room ventilation.
4-4.7.1 The ventilation shall be at least 1 cubic foot/minute/square foot of room area, but not less than 1 cubic foot/minute/12 cubic feet of room volume and shall be designed such that an accumulation of H_2 at a concentration equal to or greater than 25% of the lower flammable limit shall not occur in any part of the room.
4-4.7.2 Ventilation shall be by a continuous mechanical ventilation system or by a mechanical ventilation system activated by a continuously monitoring H_2 detection system where a gas concentration of not more than 25% of the lower flammable limit is present.
4-4.7.3 Where installed, a gas detection system shall be equipped to sound an alarm and visually indicate when a maximum of 25% of the lower flammable limit is reached.
Any failure of the ventilation system shall immediately shut down the fueling system and provide notification to the system operator. Reactivation of the fueling system shall be by manual restart and shall be conducted by trained personnel.
The gas detection system shall function during ventilation system maintenance operations.
A ventilation system for a room within or attached to another building shall be designed to ensure that all areas serviced by the ventilation system meeting performance requirements in accordance with section 4-4.7 during the normal operating conditions and during alarm conditions.
Warning signs.
Access doors shall have warning signs with the words "WARNING – NO SMOKING – NONORDORIZED FLAMMABLE GAS - CRYOGENIC LIQUID – COLD GAS – NO OPEN FLAMES." The wording shall be in plainly legible, bright red letters not less than 1 inch (2.54 centimeters) high on a white background.
Indoor attended gaseous H_2 fast-fill fueling.
4-4.9.1 Attended indoor fast-fill fueling system shall be in accordance with subsections (a) to (k) of this section.

(a) Gas storage equipment shall be located outdoors unless approved by the department. Gas processing and compression equipment shall be listed or approved for indoor use or located outdoors.
(b) An emergency manual shutdown device shall be located in the dispensing area not less than 20 feet (6.1 meters) and not more than 100 feet (30.5 meters) in the path of egress from the dispensing area. Actuation of the emergency manual shutdown device shall perform in accordance with subsection (h) of this section.
(c) The dispenser shall be equipped with a gas detection system which shall actuate in accordance with subsection (h) of this section when a maximum of 25% of LFL is detected (1% H_2 in air).
(d) The dispenser shall be equipped with a leak detection system capable of identifying a leak from the dispensing system outside the dispenser housing by conducting a pre-fill pressure test. The leak detection must be capable of detecting a minimum leak rate of 1.9 gallon/minute (7.2 liter/minute) and shall actuate in accordance with subsection (h) of this section when a leak is detected.
(e) Whether the fill is communicated or non-communicated, the dispensing system must be listed, labeled or approved to insure that the fills are protective of the safety of the temperature, pressure and flow rate limits of the on-board fuel system during fueling.
(f) The dispensing area shall be equipped with a fire detection system and shall actuate in accordance with subsection (i) of this section if a fire is detected.
(g) A ventilation system shall be installed for the dispensing area. The ventilation system shall be capable of delivering ventilation air as provided in section 4.3.7. The ventilation system shall operate prior to dispenser operation, during fueling, and for at least 1 minute after fueling has been completed. The ventilation flow rate shall be monitored. Failure or reduction of the ventilation flow rate below the required flow rate shall shut down the dispensing system.
Exemption: A dispensing area ventilation system is not required when the fuel delivery per refueling event is less than those listed in table 4-4.9.

Table 4-4.9

Room Size (m3)	Maximum fuel delivery per refueling event that does not require room ventilation (kg)
1000	0.8
2000	1.7
3000	2.5
4000	3.3
5000	4.2

(h) The actuation of any 1 of the systems listed in subsections (b) to (g) of this section shall shut down the dispenser, stop the flow of gas into the room, and start or continue to run the ventilation system, if required, it shall be in accordance with table 4-4.9.
(1) Reactivation of the dispenser and gas flow into the room shall be by manual restart and shall be conducted by trained personnel.
(i) Interior walls, doors, and window openings within 15 feet (4.6 meters) of the dispenser shall be constructed of materials having a fire rating of at least 2 hours. Wall penetrations shall require use of listed fire-rated equipment.
(j) The owner/operator shall not allow hot work/open flames within 15 feet (4.6 meters) of the refueling location unless the dispenser is shut down, depressurized, and purged.

(k) If H_2 is to be removed from the vehicle storage system, H_2 shall be discharged into a closed transfer system or vented outdoors in accordance with CGA G-5.5, "*Hydrogen Vent Systems,*" as adopted by reference in section 8.

R 29.7106 Canopies.
Rule 106. Sections 4-5 to 4-5.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
4-5 Canopies.
4-5.1 A container installation that has a canopy or roof shall have prior approval by the department based on the best interests of public health, safety, and welfare and the environment. This canopy or roof shall not limit the dissipation of heat or dispersion of flammable vapors and cannot restrict firefighting access and control.
4-5.2 A roof or canopy shall meet all of the following conditions:
(a) The lowest elevation of the roof or canopy shall not be less than 4 feet (1.8 meters) from the top of the container.
(b) All container vent(s) are extended through the roof or canopy.
(c) The roof or canopy is constructed in such a way that it will not allow for vapors to accumulate under the canopy or roof.
(d) Constructed of non-combustible materials.

R 29.7107 Outdoor fill station.
Rule 107. Sections 4-6 to 4-6.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
4-6 Outdoor fill station.
4-6.1 Each line between a liquid storage facility and a dispenser at a fill station shall have a valve that closes when 1 of the following occurs:
The power supply to the dispenser is cut off.
Any emergency shutdown device at the refueling station is activated.
A manual shutoff valve shall be provided at a fill station upstream of the breakaway device specified in section 3-5, where it is readily accessible to the person dispensing H_2, unless 1 of the following occurs:
(a) The self-closing valve referred to in section 4-6.1 is located immediately upstream of the dispenser.
(b) The dispenser is equipped with a self-closing valve that closes each time the dispenser is turned to the off position or when an emergency device is activated.
4-6.3 The liquid hydrogen dispenser shall provide a means to safely vent all hydrogen that may become trapped in sections of the dispenser between closed valves in all shut down modes including loss of power.

Chapter 5 Operation

R 29.7108 Operation.
Rule 108. Section 5-1 is reproduced from NFPA 50B, and sections 5-1.1 to 5-1.9 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Operation. For installations that require any operation of equipment by the user, instructions shall be maintained at operating locations.
Where an overpressure incident that results in operation of the overpressure protection system of the dispenser occurs, the dispenser pressure control system shall be examined and certified by a qualified operator prior to being returned to service.

Liquefied H_2 fueling facilities shall be designed so that, in the event of a power failure, the system shall go into fail-safe condition.
The maximum delivery pressure at the vehicle tank inlet shall not exceed the maximum allowable pressure of the vehicle fuel tanks.
Hose and arms shall be equipped with a shutoff valve at the fuel end and a breakaway device that meets the requirements of section 3-5 to minimize release of liquid and vapor in the event that a vehicle pulls away while the hose remains connected. Such a device shall be installed and maintained in accordance with the manufacturer's instructions.
When not in use, hose shall be secured to protect it from damage.
Where a hose or arm of nominal 3 inches (7.62 centimeters) diameter or larger is used for liquid transfer or where 1 of nominal 4 inches (10.16 centimeters) diameter or larger is used for vapor transfer, an emergency shutoff valve shall be installed in the piping of the transfer system within 10 feet (3.1 meters) from the nearest end of the hose or arm.
Where either a liquid or vapor line has 2 or more legs, an emergency shutoff valve shall be installed either in each leg or in the line before the legs.
Bleed or vent connections shall be provided so that loading arms and hose can be drained and depressurized prior to disconnection, if necessary. These bleed or vent connections shall lead to a safe point of discharge.
A fueling connector and mating vehicle receptacle shall be used for reliable, safe, and secure transfer of liquefied or gaseous H_2 to or from the vehicle with minimal leakage.
The fueling connector either shall be equipped with an interlock device that prevents release while the line is open or shall have self-closing ends that automatically close upon disconnection.
The transfer of liquefied H_2 into vehicular onboard fuel supply containers shall be performed in accordance with the manufacturer's instructions. The dispenser manufacturer's instructions shall be posted at the dispensing device.

R 29.7109 Maintenance.
Rule 109. Sections 5-2 to 5-2.11 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Maintenance.
5-2.1 Hoses, nozzles, and breakaways shall be examined visually to ensure that they are safe for use and shall be maintained in accordance with manufacturer's instructions on at least a quarterly basis, or if required by the manufacturer.
Hose shall be tested for leaks per manufacturer's requirements, and any leakage shall be a reason for rejection and replacement.
Testing shall be carried out with helium or with helium/ H_2 blend as the test gas or if this is not possible, with H_2 using suitable precautions.
The facility operator shall maintain a maintenance log in good condition and accessible to department inspection. Records shall be maintained for a minimum of 2 years.
Controllers on fuel stations shall be designed to verify the integrity of the fuel hose, breakaway, nozzle, and receptacle by pressurizing these components to at least the vehicle back pressure and checking pressure drop prior to the start of fueling.
Containers and their appurtenances, piping systems, compression equipment, controls, and detection devices shall be maintained in operating condition and according to manufacturer's instructions.
Pressure relief valves shall be maintained in operating condition.
Maintenance personnel shall be trained in leak detection procedures.
Area within 10 feet (3.1 meters) of dispenser shall be free from debris, weeds and other material that present a fire hazard.

Safety, gas detection, and fire protection equipment shall be tested or inspected at intervals not to exceed 6 months.
Maintenance activities on fire control equipment shall be scheduled so that a minimum of equipment is taken out of service at any 1 time and fire prevention safety is not compromised.

R 29.7110 Cathodic protection maintenance.
Rule 110. Sections 5-3 and 5-3.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
5-3 Cathodic protection maintenance.
5-3.1(a) Owners and operators shall ensure that all metallic container systems that are underground, mounded, or partially underground are protected and maintained to minimize corrosion as cited in the NACE standard RP0169 entitled "*Recommended Practice, Control of External Corrosion of Underground or Submerged Metallic Piping Systems*" and NACE recommended practice RP0285 entitled "*Corrosion Control of Underground Storage Tank Systems by Cathodic Protection,*" adopted by reference in section 8.
(b) All corrosion protection systems shall be operated and maintained to continuously provide corrosion protection to the metal components of the portion of the ASME approved container system that routinely contains liquid H_2 and that is in contact with the ground.
(c) All container systems equipped with cathodic protection systems shall be inspected for proper operation by a NACE certified cathodic protection tester as defined in section 1-3. The H_2 system shall be tested within 6 months of installation and at least once each calendar year at intervals not to exceed 15 months.
(d) Container systems equipped with impressed current cathodic protection systems shall be inspected by the owner every 60 days to ensure that the equipment is operating within design specifications. The design limits shall be readily available.
(e) If container systems are equipped with cathodic protection, then the owner or operator shall maintain records to demonstrate that the cathodic protection is in compliance with the performance standards of this section. The records shall provide both of the following:
(i) The results of the last 3 inspections required in subsection (d) of this section.
(ii) The results of testing from the last 2 inspections required in subsection (c) of this section.
(f) Within 6 months following the repair of any cathodically protected container system, where the repairs may affect the operation of the cathodic protection system, the system shall be tested in accordance with subsections (c) and (d) of this section to ensure that it is operating properly.
(g) Repairs or replacement of a cathodic protection system shall be conducted by a NACE certified corrosion expert as defined in section 1-3. General system maintenance of the cathodic protection system including, but not limited to, replacement of fuses, and splicing of cable would not be required to be designed by a corrosion expert and shall be approved by the department to not increase the hazard to public health, safety, and welfare and the environment.

R 29.7111 Stray or impressed currents and bonding.
Rule 111. Sections 5-4 to 5-4.3 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Stray or impressed currents and bonding.
Where stray or impressed currents are used or can be present on dispensing systems, such as cathodic protection, protective measures to prevent ignition shall be taken.
5-4.2 Static protection between the fuel dispenser and the vehicle shall not be required where H_2 is transferred by conductive hose, flexible metallic tubing, or pipe connections where both halves of the metallic couplings are in continuous contact.

The transfer surface shall be concrete or shall have a resistivity not exceeding API RP 2003, "*Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents,*" adopted by reference in section 8, performance criteria of 1 megohm as measured using a method acceptable to the department, such as EN 1081:1998 "*Resilient Floor Coverings – Determination of the Electrical Resistance*," adopted by reference in section 8.

R 29.7112 Emergency plan.
Rule 112. Sections 5-5 to 5-5.1.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
5-5 Emergency plan.
5-5.1 Emergency plan requirements.
5-5.1.1 An emergency plan shall be prepared and updated wherever gaseous or liquefied H_2 are produced, handled, stored, or used.
The plan shall be available to the department for inspection upon reasonable notice and shall include all of the following information:
(a) The type of emergency equipment available and its location.
(b) A brief description of any testing or maintenance programs for the available emergency equipment.
(c) An indication that hazard identification labeling is provided for each storage area.
(d) Location of posted emergency procedures.
(e) A material safety data sheet (MSDS or equivalent) that is available for the gaseous or liquefied H_2 stored or used on the site.
(f) A list of personnel or a site operating authority who are designated and trained to be liaison personnel for the fire department and who are responsible for but shall not be limited to the following:
(i) Aiding the emergency responders in pre-emergency planning.
(ii) Identifying the location of the gaseous and liquefied H_2 stored or used.
(iii) Accessing material safety data sheets.
(iv) Knowledge of the site emergency procedures.
(g) A list of types and quantities of gaseous and liquefied H_2 found within the facility.

R 29.7113 Release of H_2.
Rule 113. Sections 5-6 to 5-6.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Release of H_2.
Records of unexpected discharges. Accurate records of the unexpected discharge of gaseous or liquefied H_2 shall be kept by the facility and made readily available upon request. Records shall be kept for a minimum of 2 years.
Container failure. When an unexpected discharge due to primary container failure is discovered the department and the local fire department, shall be immediately notified, and the container shall be repaired or be removed from service.

R 29.7114 Security.
Rule 114. Sections 5-7 and 5-7.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Security.
5-7.1 Liquid H_2 and compressed gas cylinders, containers, and systems shall be secured against accidental dislodgement and against access by unauthorized personnel.

R 29.7115 Leaks, damage, or corrosion.

Rule 115. Sections 5-8 and 5-8.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Leaks, damage, or corrosion.
Leaking, damaged, or corroded, liquid or gaseous H_2 systems shall be removed from service, replaced or repaired.

Chapter 6 Fire protection

R 29.7116 Cautionary information.
Rule 116. Sections 6-1 to 6-1.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
6-1 Cautionary information.
6-1.1 Hazard identification signs shall be conspicuously placed at all locations where H_2 is produced, stored, used, or handled.
6-1.2 Ratings shall be assigned in accordance with NFPA 704, "*Standard System for the Identification of the Hazards of Materials for Emergency Response*," adopted by reference in section 8.

R 29.7117 Signs.
Rule 117. Sections 6-2 to 6-2.3 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
6-2.1 Signs prohibiting smoking or open flames within 25 feet (7.6 meters) shall be provided where H_2 is produced, stored, or used.
6-2.2 A sign with the following legends printed in red capital letters on a white background shall be conspicuously posted as follows:
"NON-ODORIZED FLAMMABLE GAS – CRYOGENIC LIQUID or COLD GAS – NO SMOKING – NO OPEN FLAMES"
All lettering on signage shall be 3 inches (7.62 centimeters) or more.
Exception: This does not apply to motor vehicle dispensing per sections 7.2.13 and 4-4.8.1.
6-2.3 Identification signs. Visible hazard identification signs shall be provided in accordance with NFPA 704, "*Standard System for the Identification of the Hazards of Materials for Emergency Response*", adopted by reference in section 8.1.1, at entrances to buildings or areas in which liquefied H_2 is stored, handled or used.

R 29.7118 Fire extinguisher.
Rule 118. Section 6-3 of the storage and handling of gaseous and Liquefied H_2 code is added as follows:
6-3 A portable fire extinguisher(s) having a rating of not less than 40-B:C or 2-20-B:C shall be located within 75 feet (22.9 meters) from the pumps, dispensers, and container fill openings. Fire extinguishers shall be inspected and maintained according to NFPA 10, "*Standard for Portable Fire Extinguishers*," adopted by reference in section 8-1.1.

R 29.7119 Sprinkler protection.
Rule 119. Section 6-4 of the storage and handling of gaseous and Liquefied H_2 code is added as follows:
6-4 When sprinkler protection is provided, the area in which H_2 is stored or used shall be protected with an automatic sprinkler system designed to be not less than that required by NFPA 13, "*Standard for the Installation of Sprinkler Systems,"* adopted by reference in section 8.

Chapter 7 Liquefied hydrogen dispensing systems

R 29.7120 System component qualification.
Rule 120. Section 7-1 of the storage and handling of gaseous and Liquefied H_2 code is added as follows:
System component qualification. System components shall comply with applicable provisions of Chapters 2 and 3 of this part.

R 29.7121 General system requirements.
Rule 121. Sections 7-2 to 7-2.15 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
7-2 General system requirements.
All fuel dispensing facilities shall meet the provisions of this chapter.
7-2.2 Compression, processing, generation, storage, and dispensing equipment shall be protected to prevent damage from vehicles and minimize the possibilities of physical damage and vandalism and meet the requirements of section 2-1.5 and section 3-4.4.
7-2.2.1 Access to liquefied H_2 storage, compression, and processing equipment by members of the public shall be restricted by a suitable secure area.
7-2.3 Control devices shall be installed so that internal or external icing does not cause vehicle or fueling station malfunction.
7-2.4 Vehicles shall not be considered a source of ignition with respect to the provisions of this chapter.
Exception: Vehicles containing fuel-fired equipment, such as recreational vehicles and catering trucks, shall be considered a source of ignition unless this equipment is shut off completely before entering an area in which ignition sources are not permitted.
The fueling connection shall prevent the escape of H_2 where the connector is not properly engaged or becomes separated.
Fueling nozzles for H_2 service shall be in accordance with section 2-14.1.
Compression and processing equipment shall be designed for use with H_2 and for maximum pressures and temperatures to which it can be subjected under normal operating conditions.
Compression and processing equipment shall have pressure relief devices that limit each stage pressure to the maximum allowable working pressure for the compression cylinder and piping associated with that stage of compression and meets the requirements of chapter 2.
H_2 compression equipment shall be equipped with appropriate automatic shutdown controls.
Control circuits that shut down, shall remain down until manually activated or reset by qualified personnel.
A hazard analysis shall be conducted on every H_2 fueling system installation by a qualified engineer(s) with proven expertise in H_2 fueling systems and installations.
The hazard analysis shall include the following: fire protection measures, fire protection and suppression systems, detection systems, and ventilation.
At a minimum, the hazard analysis shall include consideration of potential failures in hoses, nozzles, dispensing equipment, as well as failures for maintenance and service.
7-2.11.3 Method used for hazard analysis shall be 1 or combination of several of the following recognized procedures: hazard and operability studies (HAZOPs), failure mode effects and criticality analysis (FMECA), preliminary hazards analysis (PHA), fault tree analysis (FTA) and event tree analysis (ETA). Other analysis methods, when used, shall ensure same level of system safety as provided by any of the recognized procedures or acceptable to the department based on the best interest of public health, safety, and welfare, and the environment.
Standard designs that have been analyzed by recognized procedure need not be studied each and every time such installation occurs. Site-specific elements that are unique to the installation shall be reviewed in concert with the analysis performed on the standard system to ensure that the standard design has not been altered in a way that would negatively affect the hazard analysis.

These hazard analyses shall be available for review at final inspection, prior to the installation being placed into service, shall be maintained on site, and be available to the department upon request.
Dispensing systems shall be equipped with overfill protection.
Warning signs shall be conspicuously posted in the dispensing area and shall incorporate the following or equivalent wording: "Stop Motor, No Smoking, Non-Odorized Flammable Gas, Cryogenic Liquid or Cold Gas. Remain in attendance outside of the vehicle and in view of the nozzle. No filling of portable containers in or on a motor vehicle."
Each outdoor H_2 -dispensing device shall be located not less than 10 feet (3.1 meters) from property lines, openings to buildings, and buildings of combustible wall construction. A dispensing device shall not be less than 20 feet (6.1 meters) from any activity that involves a fixed source of ignition. In addition, a dispenser shall not be placed beneath a power line.
Each container filling location that is open to the public shall have an attendant or supervisor on duty who meets the requirements of section 1-8 of the rules.

R 29.7122 Operational requirements for full-service liquefied H_2 motor fuel dispensing facilities.
Rule 122. Sections 7-3 to 7-3.2 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Operational requirements for full-service liquefied H_2 motor fuel dispensing facilities.
Each motor fuel dispensing facility shall have an attendant or supervisor on duty whenever the facility is open for business. The attendant or supervisor shall dispense liquefied H_2 into fuel tanks of motor vehicles or into portable containers.
7-3.2 The provisions of section 2-1 of this part shall not prohibit the temporary use of a portable storage container in conjunction with the dispensing of liquefied H_2 into a container of a motor vehicle or other motorized equipment which is on the premises and which is not accessible to the public. A portable storage container installation shall only be made with the approval of the department and comply with all the requirements of section 2-13.

R 29.7123 Operational requirements for attended self-service motor fuel dispensing facilities.
Rule 123. Sections 7-4 to 7-4.5 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Operating requirements for attended self-service motor fuel dispensing facilities.
Self-service motor fuel dispensing facility shall mean that portion of a property where liquefied H_2 used as motor fuel is stored and dispensed from fixed, approved dispensing equipment into the fuel containers of motor vehicles by persons other than the facility attendant and shall also include, where provided, facilities for sale of other retail products.
There shall be not less than 1 attendant on duty while the self-service facility is open for business. The attendant's primary function shall be to supervise, observe, and control the dispensing of liquefied H_2 while the liquefied H_2 is actually being dispensed.
The responsibility of the attendant shall be as follows:
(a) Prevent the dispensing of liquefied H_2 into portable containers in or on a motor vehicle.
Control sources of ignition.
(c) Immediately activate emergency controls and notify the fire department of any fire.
The attendant or supervisor on duty shall be mentally and physically capable of performing the functions and assuming the responsibility prescribed in section 7-4.
Operating instructions shall be conspicuously posted in the dispensing area.
The dispensing area shall at all times be in clear view of the attendant, and the placing or allowing of any obstacle to come between the dispensing area and the attendant control area is prohibited. This may

be achieved by cameras or mirrors, or both. The attendant shall at all times be able to communicate with persons in the dispensing area.

R 29.7124 Operational requirements for unattended self-service motor fuel dispensing facilities.
Rule 124. Sections 7-5 to 7-5.5 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Operating requirements for unattended self-service motor fuel dispensing facilities.
Unattended self-service shall be permitted subject to the approval of the department based on the best interests of public health, safety, and welfare and the environment. Users shall use a key, card, or other method which is unique to each user, and which is provided by the facility operator, and shall be properly trained in dispensing operations. The owner shall verify such training to the department upon request.
At least 1 emergency shutoff device specified in section 7-6 shall be provided, and shall be reset only by the owner or an owner's authorized agent.
Operating instructions shall be conspicuously posted in the dispensing area. The instructions shall include the location of emergency controls.
In addition to the warning signs specified in section 6-2, emergency instructions shall be conspicuously posted in the dispenser area. The instructions shall incorporate the following or equivalent wording:
"Emergency Instructions
In Case of Fire:
Use emergency stop button.
Report accident by calling the local fire number. Report location."
A telephone or other approved, clearly identified means to notify the fire department shall be provided on the site in a location approved by the department.

R 29.7125 Emergency shutoff devices.
Rule 125. Sections 7-6 and 7-6.1 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Emergency shutoff devices.
Liquefied H_2 dispensing systems shall be provided with 1 or more clearly identified emergency shutoff devices or electrical disconnects at the dispensing area. Such devices or disconnects shall be installed in approved locations but not less than 10 feet (3.1 meters) and not more than 100 feet (30.5 meters) away from the dispensing area and which is along the means of egress. Emergency shutoff devices or electrical disconnects shall disconnect power and fuel supply to all dispensing devices, to all remote pumps serving the dispensing devices, and to all associated power. When more than 1 emergency shutoff device or electrical disconnect is provided, all devices shall be interconnected. Resetting an emergency shutoff shall require manual intervention and the manner of resetting shall be approved by the department.

R 29.7126 Refueling from transport vehicles.
Rule 126. Sections 7-7 to 7-7.11 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
Refueling from transport vehicles. The dispensing of liquefied H_2 in the open from a transport vehicle to a motor vehicle located at commercial, industrial, governmental, or manufacturing establishments and intended for fueling vehicles used in connection with their businesses shall be permitted if all of the requirements of sections 7-7.1 to 7-7.11 have been met.
The department shall be notified before commencing operations under section 7-7.
The transport vehicle shall comply with U.S. DOT requirements for the transportation of liquefied H_2.

Nighttime deliveries shall only be made in an area considered to be adequately lighted.
The transport vehicle flasher lights shall be in operation while dispensing operations are in progress.
Smoking materials, including matches, lighters, and other sources of ignition, including torches, shall not be used within 20 feet (6.1 meters) of the dispensing of liquefied H_2 in the open from a transport vehicle to a motor vehicle.
Each area where dispensing of liquefied H_2 in the open from a transport vehicle to a motor vehicle shall be provided with 1 or more listed fire extinguishers that have a minimum capability of 40-B:C. The fire extinguishers shall be readily accessible to the dispensing operation. Fire extinguishers shall be inspected and maintained under NFPA 10, "*Standard for Portable Fire Extinguishers,"* adopted by reference in section 8.
Mobile fueling shall take place aboveground, shall not be beneath electric power lines or where exposed by their failure, and shall be 10 feet (3.1 meters) from the nearest important building, property lines or combustible storage.
Transport vehicle brakes shall be set and chock blocks shall be in place.
Persons performing dispensing operations shall be qualified to deliver and dispense H_2 fuels. Operations of transport vehicles used for mobile fueling operations shall have access on-site or be in possession of an emergency communications device to notify the proper authorities if there is an emergency.
The transport vehicles shall be positioned with respect to vehicles being fueled to prevent traffic from driving over the delivery hose and between the transport vehicle and motor vehicle being fueled. The dispensing hose shall be properly placed on an approved reel or in an approved compartment before moving the transport vehicle.
The transfer area shall meet the requirements of section 5-4.

Chapter 8 Referenced publications

R 29.7127 Referenced publications.
Rule 127. Sections 8-1 to 8-1.2.9 of the storage and handling of gaseous and Liquefied H_2 code are added as follows:
The following documents or portions thereof are referenced within this standard as mandatory requirements and shall be considered part of the requirements of this standard. The edition indicated for each referenced mandatory document is the current edition, and cost at time of adoption of these rules. Copies of the adopted publications are available for inspection at the office of the Department of Environmental Quality, Waste and Hazardous Materials Division, Storage Tank Unit, P.O. Box 30241, Lansing, Michigan 48909-7741.
NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, Massachusetts 02269-9101.
NFPA 10, "*Standard for Portable Fire Extinguishers,"* 2002 edition, $36.50.
NFPA 13, "*Standard for the Installation of Sprinkler Systems,"* 2002 edition, $70.00.
NFPA 69, "*Standard on Explosion Prevention Systems,"* 2002 edition, $33.50.
NFPA 70, "*National Electrical Code,"* 2005 edition, $75.00.
NFPA 220, "*Standard on Types of Building Construction*," 1999 edition, $28.00.
NFPA 704, "*Standard System for the Identification of the Hazards of Materials for Emergency Response,"* 2001 edition, $33.50.
Other Publications.
ASME Publications. American Society of Mechanical Engineers, Three Park Avenue, New York, New York 10016-5990.
ANSI/ASME B31.3, "*Process Piping,"* 2004 edition, $240.00.
ASME International, "*Boiler and Pressure Vessel Code,"* Section VIII, 2004 edition, $525.00.

ASTM Publication. American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428-2959.
ASTM E136-04, "*Standard Test Methods for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C," 2004* edition, $35.00.
CGA Publications. Compressed Gas Association, 1725 Jefferson Davis Highway, Arlington Virginia 22202-4100.
CGA S-1.1, "*Pressure Relief Device Standards – Part 1 – Cylinders for Compressed Gases,"* 2002 edition, $196.00.
CGA S-1.2, "*Pressure Relief Device Standards – Part 2 – Cargo and Portable Tanks for Compressed Gases,"* 1995 edition, $145.00.
CGA S-1.3, "*Pressure Relief Device Standards – Part 3 – Stationary Storage Containers for Compressed Gases,"* 2003 edition, $145.00.
CGA G-5.5, "*Hydrogen Vent Systems,"* 2004 edition, $39.00.
ANSI/CGA C-4, "*Method of Marking Portable Compressed Gas Containers to Identify the Material Contained*," 2003 edition, $252.00.
CGA C-7, "*Guide to the Preparation of Precautionary Labeling and Marking of Compressed Gas Containers,"* 2000 edition, $268.00.
IAS Publications. International Approval Services, 8501 East Pleasant Valley Road, Cleveland, Ohio 44131.
ANSI/IAS NGV 4.4, "*Breakaway Devices for Dispensing Systems,"* 1999 edition, $57.00.
NACE Publications. National Association of Corrosion Engineers International, 1440 South Creek Drive, Houston, Texas 77084.
NACE RP0169, "*Control of External Corrosion of Underground or Submerged Metallic Piping Systems,"* 2002 edition, $42.00.
NACE RP0285, "*Corrosion Control of Underground Storage Tank Systems by Cathodic Protection,"* 2002 edition, $37.00.
8-1.2.6 International Codes Council. 4051 West Flossmore Road, Country Club Hills, Illinois 60478-5795.
"*International Fire Code,"* 2006 edition, section 2209.3.2.6, $61.50.
8-1.2.7 U.S. Government Publications. U.S. Government Printing Office, Washington, DC 20402.
Title 49, *Code of Federal Regulations*, Parts 171-190, U.S. Department of Transportation *Specifications and Regulations.*
ECS Publications. European Committee for Standardization, Central Secretariat: rue de Stassart 36, B-1050, Brussels.
EN 1081, "*Resilient Floor Coverings, Determination of the Electrical Resistance,"* 1998 edition, $32.00.
API Publications. American Petroleum Institute, 1220 L Street, Northwest, Washington, DC, 20005-5-4070.
API Recommended Practice 2003, "*Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents,"* 7th edition, $111.00.

ADMINISTRATIVE RULES

SOAHR 2006-074

MICHIGAN DEPARTMENT OF STATE POLICE

MICHIGAN COMMISSION ON LAW ENFORCEMENT STANDARDS

LAW ENFORCEMENT STANDARDS AND TRAINING

Filed with the Secretary of State on April 24, 2008

These rules become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the Michigan commission on law enforcement standards by section 9 of 1965 PA 203, by section 9 of 1965 PA 380, and by Executive Reorganization Order 2001-2, MCL 28.621.)

R 28.14301, R 28.14302, R 28.14303, R 28.14304, R 28.14305, R 28.14306, R 28.14307, R 28.14308, R 28.14309, R 28.14310, R 28.14311, R 28.14312, R 28.14313, R 28.14314, R 28.14315, R 28.14316, R 28.14317, R 28.14318, R 28.14319, R 28.14320 and R 28.14321 are added to the Michigan Administrative Code as follows:

PART 3. BASIC RECRUIT LAW ENFORCEMENT TRAINING PROGRAMS

R 28.14301 Definitions.

Rule 301. As used in this part:

(a) “Academy operating contract” means a basic law enforcement training academy standard form contract executed between MCOLES and an academy under the administrative procedures act, section 7, 1969 PA 306, MCL 24.207(p).

(b) “Accredited community college, college, or university” means a community college, college, or university that has been accredited by an agency or association that has been recognized by the United States department of education.

(c) "Agency basic law enforcement training academy" means a law enforcement agency that is approved by the commission to provide a course of study for qualified recruits employed by that law enforcement agency.

(d) "Basic law enforcement training academy graduate" means a recruit who has completed the training and educational requirements of a commission approved basic law enforcement training academy.

(e) "Curriculum" means the commission mandated training objectives and training standards, as well as facilitator guides, assessment instruments, and other materials that are published by the commission for use in a commission approved basic law enforcement training academy.

(f) “Executive committee” means the committee of the commission established pursuant to the commission bylaws.

(g) “Preservice college basic law enforcement training academy” means a commission approved training and education program offered by an accredited community college, college, or university that incorporates the commission mandated curriculum in the academic course of study.
(h) “Program administrator” means a person who is employed by a city, county, township, village, corporation, college, community college, university, or state agency and who has been delegated authority to commit the agency to the basic law enforcement training academy proposal, annual operating plan, and the academy operating contract. The program administrator shall have management and oversight authority of the academy but shall not be the same person as the training director.
(i) "Regional basic law enforcement training academy" means a city, county, township, village, corporation, college, community college, university, or state agency that is approved by the commission to offer a basic law enforcement training program to preservice and employed recruits.
(j) “Satisfactory grade” means a grade of 70%, 2.0 on a 4.0 scale, or an institutional equivalent, or better grade, in each course included in the commission approved course of study in a preservice college basic training academy, unless specified otherwise in these rules.
(k) “Session” means a commission approved time frame during which a group of recruits are trained during basic law enforcement training at an academy.
(l) "Training and education advisory committee" means a group composed of knowledgeable persons, including law enforcement officials, who act in an advisory capacity regarding the establishment, guidance, and evaluation of a commission approved basic law enforcement training academy.
(m) “Training director” means that person who is responsible for the day-to-day operation of a basic law enforcement training academy.
(n) "Training objective" means a behavioral statement that describes a knowledge, skill, or ability to be acquired by the recruit during the delivery of the basic law enforcement training course of study.

R 28.14302 Authorization of basic law enforcement training academy; approval by commission.
Rule 302. A city, county, township, village, corporation, college, community college, university, or state agency shall obtain commission authorization before proceeding to establish an agency or regional basic law enforcement training academy or a preservice college basic law enforcement training academy under R 28.14303.

R 28.14303 Establishment of basic law enforcement training academy; program proposal.
Rule 303. (1) A city, county, township, village, corporation, college, community college, university, or state agency shall submit a written program proposal to establish a basic law enforcement training academy. The written program proposal shall be submitted to the commission in the manner prescribed by the commission not less than 90 days before the date of the commission meeting.
(2) The written program proposal shall contain, at a minimum, all of the following:
(a) A detailed description of the facilities and equipment to be used by recruits and instructors that will comply with the commission requirements.
(b) A description of the duties, responsibilities, and membership of the training and education advisory committee.
(c) The name, address, and position of the program administrator.
(d) The name, title, and qualifications of the training director.
(e) A description of the goals and objectives of the basic law enforcement training academy.
(f) A description of the nature and scope of the applicant's financial and philosophical commitment to the basic law enforcement training academy.
(g) A copy of the academy rules governing recruit conduct.
(h) Identification of the academy requirements for an enrolled recruit.

(i) Identification of the course of study in the law enforcement training academy sessions.
(j) A statement recognizing the commission's authority to visit and inspect the basic law enforcement training academy and to be furnished requested records and documentation.
(k) Identification and descriptions of affiliations with agencies, colleges, and universities that will be a part of the basic law enforcement training academy.
(l) An estimate of the number of basic law enforcement training academy sessions that will be offered on a yearly basis.
(m) A statement documenting the need for establishment of the proposed academy that includes both of the following:
(i) The need by law enforcement agencies in the proposed service area.
(ii) The prospective recruits' need for the proposed academy.
(n) Documentation of support from the local law enforcement community within the geographic service area of the proposed academy.
(o) A statement describing the selection methods of prospective preservice and preservice college recruits.
(p) The projected starting and graduation dates of the first basic law enforcement training academy session.
(q) A definition of the geographical area that the proposed basic law enforcement training academy will serve.
(r) A projection of the number of recruits that will be enrolled in the academy on a yearly basis.
(s) Verification that acceptable live-in facilities are available in the vicinity of the basic law enforcement training academy.
(3) The entity submitting the program proposal in subrule (1) of this rule shall do all of the following with respect to the training and education advisory committee described in subrule (2)(b) of this rule.
(a) The training and education advisory committee shall be appointed before development of the program proposal and shall be consulted on all aspects of the application.
(b) The committee shall approve the program proposal before it is submitted to the commission. If the commission approves the program proposal, then the committee shall be consulted on a continuing basis regarding the operation of the academy.
(4) If the commission determines that the application is incomplete, then an amended application with amplification or clarification shall be filed within 30 days after the date of a request by the commission.
(5) Failure to comply with subrule (4) of this rule is grounds for denial of the application.
(6) Written commission approval of the program proposal shall be obtained before submitting an annual operating plan under R 28.14307.
(7) An approved basic law enforcement academy that fails to conduct an academy session for 3 years shall submit a new program proposal for commission approval to reestablish itself as an approved basic law enforcement training academy.

R 28.14304 Establishment of preservice college basic training academy; program proposal.
Rule 304. In addition to the requirements in R 28.14303, the program proposal of a preservice college basic law enforcement training academy shall include all of the following:
(a) A copy of the community college, college, or university rules governing student conduct beyond those established by the commission.
(b) A description of how students will be selected for acceptance into the preservice college basic training academy at the applicant's institution.

(c) Identification of how and where the commission curriculum and additional community college, college, or university training objectives will be incorporated into the community college, college, or university course work.

(d) Identification of the requirements that an enrolled preservice college recruit shall meet to successfully complete the prescribed course of study at the community college, college, or university.

R 28.14305 Establishment of agency basic law enforcement training academy; program proposal.

Rule 305. (1) The program proposal of a law enforcement agency that seeks to establish an agency basic law enforcement training academy shall comply with R 28.14303, except for R 28.14303(2) (b), (k), (m), (n), (o) and (q).

(2) In addition to the requirements of subrule (1) of this rule, the application shall include a statement documenting the need for establishment of the proposed academy by the law enforcement agency and the prospective recruits' need for the proposed academy.

R 28.14306 Training director responsibilities.

Rule 306. The training director of an approved basic law enforcement training academy shall do all of the following:

(a) Ensure that the academy is operated in compliance with these rules and the academy operating contract.

(b) Ensure that each recruit is enrolled and maintains compliance with these rules and the academy operating contract.

R 28.14307 Annual operating plan; academy requirements after approval; notice of change in structure or content of program; commission approval required.

Rule 307. A city, county, township, village, corporation, college, community college, university, or state agency authorized by the commission to establish a basic law enforcement training academy shall do the following:

(a) Submit an annual operating plan in the manner prescribed by the commission.

(b) Execute an academy operating contract.

(c) Final approval to operate under MCL 28.609(4)(b) is contingent upon formal acceptance of both subdivisions (a) and (b) of this rule by the commission.

(d) The training director of a basic law enforcement training academy shall notify the commission immediately of any anticipated change in the annual operating plan during an academy session.

(e) Written commission approval of the change shall be obtained before implementing a change.

R 28.14308 Basic law enforcement training academy session; approval required.

Rule 308. A city, county, township, village, corporation, college, community college, university, or state agency approved by the commission as a basic law enforcement training academy shall obtain commission approval in the manner prescribed by the commission before initiating each basic law enforcement training session.

R 28.14309 Revocation of commission approval; probation; suspension.

Rule 309. (1) A documented violation of these rules or the academy operating contract by an approved basic law enforcement training academy shall constitute cause for immediate review of continuing commission approval of the academy. Following the review, the MCOLES executive director may do any of the following:

(a) Revoke the approval of a basic law enforcement training academy.

(b) Suspend the basic law enforcement training academy approval to operate until specified terms and conditions are met.
(c) Place the basic law enforcement training academy on probation for a specific period of time or until specified terms and conditions are met.
(d) Take informal action to resolve the violation.

(2) The placement of an approved basic law enforcement training academy into a status as set forth in subrule (1) of this rule shall result in any of the following:
(a) An academy placed into a status of revocation shall not operate the basic law enforcement academy, regardless of any active recruit sessions. The academy shall not be eligible for approval until submission of an application under R 28.14302 and R 28.14303.
(b) An academy placed into a status of suspension shall not operate the basic law enforcement academy, regardless of any active recruit sessions. The academy shall not be eligible for approval to resume operation until specified terms and conditions set forth by the commission or the executive committee are met. Failure to meet the specified terms and conditions may result in further suspension or revocation of the academy.
(c) An approved basic law enforcement training academy placed into a status of probation may continue operation, including any active recruit sessions, provided that specified terms and conditions set forth by the executive director are met. Failure to meet the specified terms and conditions may result in suspension or revocation of approval of the academy.
(3) The executive director may authorize remedial action to minimize the impact of any academy sanction on recruits.
(4) The executive director shall immediately report his academy disciplinary action to the executive committee.

R 28.14310 Basic law enforcement training academy; right to appeal denial, revocation, suspension, or probation.
Rule 310. (1) A basic law enforcement training academy shall have standing to appeal in writing a denial, revocation, suspension, or probation to the commission within 3 business days of issuance of the original notice.
(2) The executive committee shall act on behalf of the commission, if the commission is not scheduled to meet within 5 business days of receipt of an appeal. A decision by the executive committee or the commission is final.

R 28.14311 Basic law enforcement training curriculum; course of study.
Rule 311. (1) The commission shall publish the basic law enforcement training curriculum.
(2) An approved basic law enforcement training academy shall teach the course of study approved by the commission.
(3) The approved academy shall provide, or provide access to, the curriculum to enrolled recruits.

R 28.14312 Academy enrollment; compliance with standards; deadlines.
Rule 312. (1) An application for enrollment in a commission approved academy, as defined in R 28.14301 (c), (g), and (i), shall be completed in the manner prescribed by the commission and include a release of information for purpose of law enforcement licensing.
(2) The training director shall screen all prospective preservice recruits in a regional basic law enforcement training academy session or a preservice college basic law enforcement training academy to ensure compliance with the selection and employment standards in R 28.14203 (a) to (g) and R 28.14204, not later than 5 business days before the start of an academy session or a preservice college program. An academy shall conduct a background check, in lieu of a comprehensive background

investigation, on the form or in the manner prescribed by the commission to determine preservice and preservice college recruit compliance with R 28.14203(e).
(3) Before enrolling a preservice or preservice college recruit in an academy session, the academy shall provide the recruit with an approved medical history form that shall be made available to the examining physician and shall become a part of the physician's medical record.
(4) An employing agency shall ensure compliance with R 28.14206 not later than 5 business days before enrolling a recruit in an academy session.
(5) Within 180 days before the start of an academy, the prospective recruit shall be fingerprinted and a search made of appropriate state and federal fingerprint files to disclose any criminal record.
(6) An oral interview shall be conducted to determine a preservice or preservice college prospective recruit's suitability for a law enforcement officer position and to assess the applicant's demeanor, background, and the ability to communicate.
(7) A prospective recruit intending to enroll in a basic law enforcement training academy session shall take and pass the commission's preenrollment physical fitness examination before, but be within 180 days before the start of the academy session.
(8) The results of the selection and employment standards screening shall be submitted to the commission using the MCOLES information and tracking network not later than 5 business days before the start of an academy session. Exceptions and comments made by the examining physician, an investigator, or other person on source documents shall be included in the MCOLES information and tracking network reporting.
(9) A prospective recruit who is not in full compliance with the selection and employment standards shall not participate in any recruit training or be enrolled by the commission. Any participation in an academic course at a preservice college training academy, without first having complied with this rule, shall not count toward completion of the course of study.
(10) Before enrollment, the prospective recruit shall have executed the commission's standards compliance verification affidavit and the applicant background affidavit.

R 28.14313 Military preservice recruits.
Rule 313. (1) A prospective recruit seeking enrollment in a basic training academy who has prior military law enforcement experience may request a waiver of the requirements in R 28.14315(1)(b) to enroll in a commission approved regional or preservice college basic law enforcement training academy, if all of the following requirements are met:
(a) Have successfully completed a mandatory basic military police training academy.
(b) Have served competently as a military police officer, with full powers of arrest, the authority to carry firearms in the performance of his or her duties, while holding the specialty rank or assignment of a military police officer, or its equivalent, in 1of the 5 branches of the United States armed services, the national guard, or the reserves. The applicant shall have acted in the unrestricted full capacity of a military police officer for a minimum of 2,080 hours following training.
(c) Have been honorably discharged from active duty.
(2) Each requirement listed above shall be verified through a commission review of a properly executed DD-214 and the applicant's military service record.

R 28.14314 Basic recruit requirements.
Rule 314. A basic law enforcement training recruit shall do the following:
(a) Comply with all of the attendance and academic requirements.
(b) Comply with all administrative rules, policies and procedures, and academy rules.

(c) Successfully complete the prescribed course of study during the approved academy session. An extension for the completion of the basic training program and testing requirements may be granted by the commission for a recruit under the following conditions:

(i) The recruit has a documented physical injury sustained during an academy training event that is temporary and medically prohibits the recruit from full and active participation in 1 or more components of the basic training program or testing.

(ii) The recruit has a documented family or medical emergency situation outside the parameters of the academy that reasonably prohibits the recruit from full and active participation in 1 or more components of the basic training program or testing.

(iii) The recruit shall not be absent for more than one-half of any individual physical skills training and not more than 10% of the overall session.

(iv) An application for an extension shall be filed with the commission by the training director for a pre-service recruit or by a law enforcement agency for an employed recruit. The application shall comply with the procedures outlined in the policies and procedures manual published pursuant to R 28.14211.

R 28.14315 Preservice and preservice college recruit requirements.

Rule 315. (1) In addition to the requirements of R 28.14314, preservice and preservice college recruits shall do all of the following:

(a) Meet and maintain compliance with the selection and employment standards in R 28.14203 (a) to (g) and R 28.14204.

(b) Possess either an associate or baccalaureate degree before the commission will recognize the completion of the regional basic law enforcement training academy unless the requirement has been waived under R 28.14313.

(c) At the time of employment, comply with all of the selection and employment standards in R 28.14203 and R 28.14204.

R 28.14316 Preservice college recruit requirements.

Rule 316. In addition to the requirements in R 28.14314 and R 28.14315, a preservice college recruit shall do all of the following:

(a) Meet the requirements established by the community college, college, or university for enrollment in its approved preservice college basic training academy.

(b) Complete the commission approved preservice college basic training course of study within a 1□year period.

(c) Attain a satisfactory grade in all preservice college courses, as evidenced by an official academic transcript.

(d) Graduate from an associate or baccalaureate degree program at an accredited community college, college, or university and have been awarded either an associate or baccalaureate degree before employment as a law enforcement officer.

R 28.14317 Agency basic recruits.

Rule 317. In addition to the requirements in R 28.14314, an agency basic recruit shall comply with the following:

(a) Meet and maintain compliance with the selection and employment standards in R 28.14203 (a) to (h) and R 28.14204.

(b) Maintain employment with the enrolling agency through successful completion of the course of study.

(c) Complete the commission approved basic training course of study during the session within which the recruit is enrolled.

R 28.14318 Recruit dismissals; grounds.

Rule 318. (1) After investigation and consultation with the commission, the training director shall do the following:

(a) Dismiss an enrolled recruit for failure to comply with or successfully complete the requirements in R 28.14314 to R 28.14317, as applicable.

(b) Dismiss an employed recruit for failure to do either of the following:

(i) Maintain employment with a law enforcement agency during the basic law enforcement training academy.

(ii) Maintain compliance with the minimum selection and employment standards in R 28.14203 (a) to (f) and R 28.14204 during the basic law enforcement training academy.

(2) The training director may dismiss an enrolled recruit after investigation and consultation with the commission for failure to comply with academy rules and regulations or the academy operating contract.

(3) An agency law enforcement basic training academy may dismiss an employed recruit for reasons unrelated to subrules (1) and (2) of this rule without consultation with the commission. The academy shall notify the commission of the dismissal and the reason for the dismissal.

(4) The commission may investigate and dismiss a recruit based on a violation of these rules, the academy operating contract, or the academy's rules and regulations as approved in the annual operating agreement.

R 28.14319 Recruit dismissals; appeal; final decision.

Rule 319. (1) A recruit dismissal may be appealed in the following manner:

(a) An employer may appeal a dismissal of an employed recruit to the commission.

(b) A dismissed employed recruit shall not have standing to appeal the dismissal to the commission.

(2) A commission decision on appeal is final.

(3) A preservice or preservice college recruit may appeal a dismissal to the MCOLES executive director. The executive director's decision is final.

R 28.14320 Recruit eligibility to take licensing exam; timeframe.

Rule 320. A basic law enforcement training recruit shall do the following:

(a) Comply with all of the requirements in R 28.14314 to R 28.14317, as applicable, before taking the licensing exam.

(b) Pass the licensing exam within 1 year of complying with the requirements in subdivision (a) of this subrule.

R 28.14321 Recruit licensing eligibly timeframes.

Rule 321. A recruit who is not employed and licensed as a law enforcement officer within 1 year of completion of a basic law enforcement training academy session shall, before licensing, comply with the requirements of the recognition of prior basic law enforcement training and experience program. The executive director may extend the timelines in this subrule by not more than 90 days for either of the following reasons:

(a) If required by reexamination under R 28.14204(g) or R 28.14602.

(b) For good cause based on a prospective employing agency's written request. If an extension request is granted, the extension applies only to employment with the requesting agency.

ADMINISTRATIVE RULES

SOAHR 2007-054

MICHIGAN DEPARTMENT OF STATE POLICE

MICHIGAN COMMISSION ON LAW ENFORCEMENT STANDARDS

BASIC LAW ENFORCEMENT TRAINING PROGRAMS

Filed with the Secretary of State on April 24, 2008

These rule adoptions become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the Michigan commission on law enforcement standards by section 9 of 1965 PA 203, MCL 28.609, by section 9 of 1965 PA 380, MCL 16.109, and by Executive Reorganization Order 2001-2, MCL 28.621.)

R 28.4351, R 28.4352, R 28.4353, R 28.4354, R 28.4355, R 28.4356, R 28.4357, R 28.4358, R 28.4359, R 28.4360, R 28.4361, R 28.4362, R 28.4363, R 28.4364, R 28.4365, and R 28.4366 of the Michigan Administrative Code are rescinded as follows:

R 28.4351 Rescinded.
R 28.4352 Rescinded.
R 28.4353 Rescinded.
R 28.4354 Rescinded.
R 28.4355 Rescinded.
R 28.4356 Rescinded.
R 28.4357 Rescinded.
R 28.4358 Rescinded.
R 28.4359 Rescinded.
R 28.4360 Rescinded.
R 28.4361 Rescinded.
R 28.4362 Rescinded.
R 28.4363 Rescinded.
R 28.4364 Rescinded.
R 28.4365 Rescinded.
R 28.4366 Rescinded.

ADMINISTRATIVE RULES

SOAHR 2007-055

MICHIGAN DEPARTMENT OF STATE POLICE

MICHIGAN COMMISSION ON LAW ENFORCEMENT STANDARDS

PRESERVICE BASIC TRAINING PROGRAMS

Filed with the Secretary of State on April 24, 2008

These rule adoptions become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the Michigan commission on law enforcement standards by section 9 of 1965 PA 203, MCL 28.609, by section 9 of 1965 PA 380, MCL 16.109, and by Executive Reorganization Order 2001-2, MCL 28.621.)

R 28.4301, R 28.4302, R 28.4303, R 28.4304, R 28.4305, R 28.4306, R 28.4307, R 28.4308, R 28.4309, R 28.4310, and R 28.4311 of the Michigan Administrative Code are rescinded as follows:

R 28.4301 Rescinded.
R 28.4302 Rescinded.
R 28.4303 Rescinded.
R 28.4304 Rescinded.
R 28.4305 Rescinded.
R 28.4306 Rescinded.
R 28.4307 Rescinded.
R 28.4308 Rescinded.
R 28.4309 Rescinded.
R 28.4310 Rescinded.
R 28.4311 Rescinded.

PROPOSED ADMINISTRATIVE RULES, NOTICES OF PUBLIC HEARINGS

MCL 24.242(3) states in part:

"… the agency shall submit a copy of the notice of public hearing to the State Office of Administrative Hearings and Rules for publication in the Michigan register. An agency's notice shall be published in the Michigan register before the public hearing and the agency shall file a copy of the notice of public hearing with the State Office of Administrative Hearings and Rules."

MCL 24.208 states in part:

"Sec. 8. (1) The State Office of Administrative Hearings and Rules shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:

* * *

(d) Proposed administrative rules.

(e) Notices of public hearings on proposed administrative rules."

PROPOSED ADMINISTRATIVE RULES

SOAHR 2007-017

DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY DIVISION

AIR POLLUTION CONTROL

Filed with the Secretary of State on

These rules become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of environmental quality by sections 5503, 5505(4), and 5512 of 1994 PA 451, MCL 324.5503, 324.5505(4), and 324.5512, and Executive Reorganization Order No. 1995-18, MCL 324.99903)

R 336.2801, R 336.2816, and R 336.2818, of the Michigan Administrative Code are amended as follows:

PART 18. PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY

R 336.2801 Definitions.

Rule 1801. The following definitions apply to terms used in this part. If a term defined in this part is also defined elsewhere in the rules, then the definition contained here applies for this part only.

(a) "Actual emissions" means the actual rate of emissions of a regulated new source review pollutant from an emissions unit, as determined under R 336.1101(b), except that this definition shall not apply for calculating whether a significant emissions increase has occurred, or for establishing a plantwide applicability limit under R 336.2823. Instead, the terms "projected actual emissions" and "baseline actual emissions" shall apply for those purposes.

(b) "Baseline actual emissions" means the rate of emissions, in tons per year, of a regulated new source review pollutant, as determined by the following:

(i) For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding when the owner or operator begins actual construction of the project. The department shall allow the use of a different time period upon a determination that it is more representative of normal source operation. All of the following provisions apply:

(A) The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions.

(B) The average rate shall be adjusted downward to exclude any noncompliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive 24-month period.

(C) For a regulated new source review pollutant, if a project involves multiple emissions units, then only 1 consecutive 24-month period shall be used to determine the baseline actual emissions for the emissions units being changed. A different consecutive 24-month period may be used for each regulated new source review pollutant.

(D) The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by paragraph (i)(B) of this subdivision.

(ii) For an existing emissions unit, other than an electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received by the department for a permit required by R 336.1201, whichever is earlier, except that the 10-year period shall not include any period earlier than November 15, 1990. All of the following provisions apply:

(A) The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions.

(B) The average rate shall be adjusted downward to exclude any noncompliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive 24-month period.

(C) The average rate shall be adjusted downward to exclude emissions that would have exceeded an emission limitation with which the major stationary source must currently comply, had such major stationary source been required to comply with such limitations during the consecutive 24-month period. However, if an emission limitation is part of a maximum achievable control technology standard that the United States environmental protection agency proposed or promulgated under 40 C.F.R. part 63, then the baseline actual emissions need only be adjusted if the state has taken credit for such emissions reductions in an attainment demonstration or maintenance plan submitted to the U.S. environmental protection agency. The provisions of 40 C.F.R. part 63 are adopted by reference in R 336.2801a.

(D) For a regulated new source review pollutant, if a project involves multiple emissions units, then only 1 consecutive 24-month period shall be used to determine the baseline actual emissions for the emissions units being changed. A different consecutive 24-month period may be used for each regulated new source review pollutant.

(E) The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by subparagraphs (B) and (C) of this paragraph.

(iii) For a new emissions unit, the baseline actual emissions for purposes of determining the emissions increase that will result from the initial construction and operation of such unit shall equal zero; and thereafter, for all other purposes, shall equal the unit's potential to emit.

(iv) For a plantwide applicability limit for a stationary source, the baseline actual emissions shall be calculated for existing electric utility steam generating units under paragraph (i) of this subdivision, for other existing emissions units under paragraph (ii) of this subdivision, and for a new emissions unit under paragraph (iii) of this subdivision.

(c) "Baseline area" means all of the following:

(i) Any intrastate area, and every part thereof, designated as attainment or unclassifiable under section 107(d)(1) (D) or (E) of the clean air act in which the major source or major modification establishing the minor source baseline date would construct or would have an air quality impact equal to or greater than 1 microgram per cubic meter (annual average) of the pollutant for which the minor source baseline date is established.

(ii) Area redesignations under section 107(d)(1) (D) or (E) of the clean air act shall not intersect or be smaller than the area of impact of any major stationary source or major modification which does either of the following:

(A) Establishes a minor source baseline date.

(B) Is subject to PSD regulations or new source review for major sources in nonattainment areas regulations.

(iii) Any baseline area established originally for the total suspended particulates increments shall remain in effect and shall apply for purposes of determining the amount of available PM-10 increments, except that the baseline area shall not remain in effect if the department rescinds the corresponding minor source baseline date under subdivision (bb)(iv) of this rule.

(d) "Baseline concentration" means the value derived using the following procedures:

(i) The ambient concentration level that exists in the baseline area at the time of the applicable minor source baseline date. A baseline concentration is determined for each pollutant for which a minor source baseline date is established and shall include both of the following:

(A) The actual emissions representative of sources in existence on the applicable minor source baseline date.

(B) The allowable emissions of major stationary sources that commenced construction before the major source baseline date, but were not in operation by the applicable minor source baseline date.

(ii) The following shall not be included in the baseline concentration and shall affect the applicable maximum allowable increase:

(A) Actual emissions from any major stationary source on which construction commenced after the major source baseline date.

(B) Actual emissions increases and decreases at any stationary source occurring after the minor source baseline date.

(e) "Begin actual construction" means, in general, initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures. "A change in method of operation" refers to those on-site activities, other than preparatory activities, which mark the initiation of the change.

(f) "Best available control technology" or "BACT" means an emissions limitation, including a visible emissions standard, based on the maximum degree of reduction for each regulated new source review pollutant, which would be emitted from any proposed major stationary source or major modification which the department -- on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs -- determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combination techniques for control of the pollutant. Application of best available control technology shall not result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 C.F.R. parts 60 and 61, adopted by reference in R 336.2801a. If the department determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, then a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of best available control technology. The standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of the design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.

(g) "Building, structure, facility, or installation" means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on 1 or more contiguous or adjacent properties, and are under the control of the same person, or persons under common control, except the activities of any

vessel. Pollutant-emitting activities are part of the same industrial grouping if they have the same 2-digit major group code associated with their primary activity. Major group codes and primary activities are described in the standard industrial classification manual, 1987. For assistance in converting north American industrial classification system codes to standard industrial classification codes see http://www.census.gov/epcd/naics02/.

(h) "Clean coal technology" means any technology, including technologies applied at the precombustion, combustion, or post-combustion stage, at a new or existing facility which will achieve significant reductions in air emissions of sulfur dioxide or oxides of nitrogen associated with the utilization of coal in the generation of electricity, or process steam which was not in widespread use as of November 15, 1990.

(i) "Clean coal technology demonstration project" means a project using funds appropriated under the heading "Department of Energy -- Clean Coal Technology," up to a total amount of $2,500,000,000 for commercial demonstration of clean coal technology, or similar projects funded through appropriations for the United States Environmental Protection Agency. The federal contribution for a qualifying project shall be at least 20% of the total cost of the demonstration project.

(j) [Reserved]

(k) "Commence," as applied to construction of a major stationary source or major modification, means that the owner or operator has all necessary preconstruction approvals or permits and has done either of the following:

(i) Begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time.

(ii) Entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time.

(l) "Complete" means, in reference to an application for a permit, that the application contains all the information necessary for processing the application. Designating an application complete for purposes of permit processing does not preclude the department from requesting or accepting additional information.

(m) "Construction" means any physical change or change in the method of operation, including fabrication, erection, installation, demolition, or modification of an emissions unit, that would result in a change in emissions.

(n) "Continuous emissions monitoring system" or "CEMS" means all of the equipment that may be required to meet the data acquisition and availability requirements of these rules, to sample, condition if applicable, analyze, and provide a record of emissions on a continuous basis.

(o) "Continuous emissions rate monitoring system" or "CERMS" means the total equipment required for the determination and recording of the pollutant mass emissions rate in terms of mass per unit of time.

(p) "Continuous parameter monitoring system" or "CPMS" means all of the equipment necessary to meet the data acquisition and availability requirements of these rules, to monitor process and control device operational parameters (for example, control device secondary voltages and electric currents) and other information (for example, gas flow rate, oxygen or carbon dioxide concentrations), and to record average operational parameter value or values on a continuous basis.

(q) "Electric utility steam generating unit" means any steam electric generating unit that is constructed for supplying more than 1/3 of its potential electric output capacity and more than 25 megawatt electrical output to any utility power distribution system for sale. Steam supplied to a steam distribution system for providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

(r) "Emissions unit" means any part of a stationary source that emits or would have the potential to emit any regulated new source review pollutant and includes an electric utility steam generating unit. Both of the following are types of emissions units:

(i) A new emissions unit is any emissions unit that is, or will be, newly constructed and that has existed for less than 2 years from the date the emissions unit first operated.

(ii) An existing emissions unit is any emissions unit that does not meet the definition of a new emissions unit. A replacement unit is an existing emissions unit **and no creditable emission reductions shall be generated from shutting down the existing emissions unit that is replaced. A replacement unit shall meet all of the following criteria:**

(A) The emissions unit is a reconstructed unit if the replacement of components of an existing facility is to such an extent that the fixed capital cost of the new components exceeds 50% of the fixed capital cost that would be required to construct a comparable entirely new facility or the emissions unit completely takes the place of an existing emissions unit.

(B) The emissions unit is identical to or functionally equivalent to the replaced emissions unit.

(C) The replacement does not alter the basic design parameters of the process unit.

(D) The replaced emissions unit is permanently removed from the major stationary source, otherwise permanently disabled, or permanently barred from operation by a permit that is enforceable as a practical matter. If the replaced emissions unit is brought back into operation, it shall constitute a new emissions unit.

(s) "Federal land manager" means, with respect to any lands in the United States, the secretary of the department with authority over such lands.

(t) "High terrain" means an area having an elevation 900 feet or more above the base of the stack of a source.

(u) "Hydrocarbon combustion flare" means either a flare used to comply with an applicable new source performance standard or maximum achievable control technology standard, including uses of flares during startup, shutdown, or malfunction permitted under such a standard, or a flare that serves to control emissions of waste streams comprised predominately of hydrocarbons and containing not more than 230 milligrams per dry standard cubic meter hydrogen sulfide.

(v) "Indian reservation" means any federally recognized reservation established by treaty, agreement, executive order, or act of congress.

(w) "Indian governing body" means the governing body of any tribe, band, or group of Indians subject to the jurisdiction of the United States and recognized by the United States as possessing power of self-government.

(x) "Innovative control technology" means any system of air pollution control that has not been adequately demonstrated in practice, but may have a substantial likelihood of achieving greater continuous emissions reduction than any control system in current practice or of achieving at least comparable reductions at lower cost in terms of energy, economics, or non-air quality environmental impacts.

(y) "Low terrain" means any area other than high terrain.

(z) "Lowest achievable emission rate" or "LAER", for any source, means the more stringent rate of emissions based on R 336.1112(f).

(aa) "Major modification" means any of the following:

(i) Physical change in or change in the method of operation of a major stationary source that would result in both of the following:

(A) A significant emissions increase of a regulated new source review pollutant.

(B) A significant net emissions increase of that pollutant from the major stationary source.

(ii) A significant emissions increase from any emissions units or net emissions increase at a major stationary source that is significant for volatile organic compounds shall be considered significant for ozone.

(iii) Physical change or change in the method of operation shall not include any of the following:

(A) Routine maintenance, repair, and replacement.

(B) Use of an alternative fuel or raw material by reason of any order under section 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 or by reason of a natural gas curtailment plan under the Federal Power Act.

(C) Use of an alternative fuel by reason of an order or rule under section 125 of the clean air act.

(D) Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste.

(E) Use of an alternative fuel or raw material by a stationary source which meets either of the following:

(1) The source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, under PSD regulations or R 336.1201(1)(a).

(2) The source is approved to use under any permit issued under PSD regulations or under R 336.1201(1)(a).

(F) An increase in the hours of operation or in the production rate, unless the change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, under PSD regulations or R 336.1201(1)(a).

(G) Any change in ownership at a stationary source.

(H) [Reserved]

(I) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with both of the following:

(1) The state implementation plan.

(2) Other requirements necessary to attain and maintain the national ambient air quality standards during the project and after the project is terminated.

(J) The installation or operation of a permanent clean coal technology demonstration project that constitutes repowering, provided that the project does not result in an increase in the potential to emit of any regulated pollutant emitted by the unit. This exemption shall apply on a pollutant-by-pollutant basis.

(K) The reactivation of a very clean coal-fired electric utility steam generating unit.

(iv) This definition shall not apply with respect to a particular regulated new source review pollutant when the major stationary source is complying with the requirements for an actuals PAL for that pollutant. Instead, the definition of PAL major modification in R 336.2823 shall apply.

(bb) All of the following apply to major and minor source baseline dates:

(i) "Major source baseline date" means both of the following:

(A) January 6, 1975, for particulate matter and sulfur dioxide.

(B) February 8, 1988, for nitrogen dioxide.

(ii) "Minor source baseline date" means the earliest date after the trigger date on which a major stationary source or a major modification subject to PSD regulations submits a complete application under the relevant regulations. The trigger date is both of the following:

(A) August 7, 1977, for particulate matter and sulfur dioxide.

(B) February 8, 1988, for nitrogen dioxide.

(iii) The baseline date is established for each pollutant for which increments or other equivalent measures have been established if both of the following occur:

(A) The area in which the proposed source or modification would construct is designated as attainment or unclassifiable under section 107(d)(i) (D) or (E) of the clean air act for the pollutant on the date of its complete application under R 336.1201 and PSD regulations.

(B) If a major stationary source, the pollutant would be emitted in significant amounts, or, if a major modification, there would be a significant net emissions increase of the pollutant.

(iv) Any minor source baseline date established originally for the total suspended particulates increments shall remain in effect and shall apply for determining the amount of available PM-10 increments, except that the department may rescind any minor source baseline date where it can be shown, to the satisfaction of the department, that the emissions increase from the major stationary source, or the net emissions increase from the major modification, responsible for triggering that date did not result in a significant amount of PM-10 emissions.

(cc) "Major stationary source" means any of the following:

(i) Any of the following stationary sources of air pollutants which emits, or has the potential to emit, 100 tons per year or more of a regulated new source review pollutant:

(A) Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input.

(B) Coal cleaning plants with thermal dryers.

(C) Kraft pulp mills.

(D) Portland cement plants.

(E) Primary zinc smelters.

(F) Iron and steel mill plants.

(G) Primary aluminum ore reduction plants.

(H) Primary copper smelters.

(I) Municipal incinerators capable of charging more than 250 tons of refuse per day.

(J) Hydrofluoric, sulfuric, and nitric acid plants.

(K) Petroleum refineries.

(L) Lime plants.

(M) Phosphate rock processing plants.

(N) Coke oven batteries.

(O) Sulfur recovery plants.

(P) Carbon black plants (furnace process).

(Q) Primary lead smelters.

(R) Fuel conversion plants.

(S) Sintering plants.

(T) Secondary metal production plants.

(U) Chemical process plants.

(V) Fossil fuel boilers, or combinations thereof, totaling more than 250 million British thermal units per hour heat input.

(W) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels.

(X) Taconite ore processing plants.

(Y) Glass fiber processing plants.

(Z) Charcoal production plants.

(ii) Any stationary source not listed in the previous subdivision which emits, or has the potential to emit, 250 tons per year or more of a regulated new source review pollutant.

(iii) Any physical change that would occur at a stationary source not otherwise qualifying under subdivision (cc) of this subrule, as a major stationary source if the change would constitute a major stationary source by itself.

(iv) A major source that is major for volatile organic compounds shall be considered major for ozone.

(v) The fugitive emissions of a stationary source shall not be included in determining, for any of the purposes of this rule, whether it is a major stationary source, unless the source belongs to 1 of the categories of stationary sources listed is paragraph (i) of this subdivision.

(dd) "Necessary preconstruction approvals or permits" means a permit issued under R 336.1201(1)(a) that is required by R 336.2801 to R 336.2819, R 336.2823, and R 336.2830 or R 336.1220.

(ee) "Net emissions increase" means all of the following:

(i) For any regulated new source review pollutant emitted by a major stationary source, the amount by which the sum of the following exceeds zero:

(A) The increase in emissions from a particular physical change or change in the method of operation at a stationary source as calculated under R 336.2802(4).

(B) Any other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable. Baseline actual emissions for calculating increases and decreases under this paragraph shall be determined as provided in the definition of baseline actual emissions, except that paragraphs **(b)**(i)(C) and **(b)**(ii)(D) of this ~~subdivision~~ **rule** shall not apply.

(ii) An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs ~~not more than 5 years before the date that the increase from the particular change occurs.~~ **between the following:**

(A) The date 5 years before construction on the particular change commences.

(B) The date that the increase from the particular change occurs.

(iii) An increase or decrease in actual emissions is creditable only if ~~both of the following occur:~~

~~(A) It occurs within a 5-year period.~~

~~(B)~~ the department has not relied on it in issuing a permit under R 336.1201(1)(a) or R 336.1214a, which permit is in effect when the increase in actual emissions from the particular change occurs.

(iv) An increase or decrease in actual emissions of sulfur dioxide, particulate matter, or oxides of nitrogen that occurs before the applicable minor source baseline date is creditable only if it is required in calculating the amount of maximum allowable increases remaining available.

(v) An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.

(vi) A decrease in actual emissions is creditable only to the extent that it meets all of the following criteria:

(A) The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions.

(B) It is enforceable as a practical matter at and after the time that actual construction on the particular change begins.

(C) It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change.

(vii) An increase that results from a physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. A replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days.

(viii) The ~~provisions~~ **definition** of **actual emissions in** R 336.1101(b) shall not apply for determining creditable increases and decreases **after a change, instead the definitions of the terms "projected actual emissions" and "baseline emissions" shall be used**.

(ff) [Reserved]

(gg) "Pollution prevention" means any activity that through process changes, product reformulation or redesign, or substitution of less polluting raw materials, eliminates or reduces the release of air

pollutants, including fugitive emissions, and other pollutants to the environment before recycling, treatment, or disposal. Pollution prevention does not mean recycling, other than certain "in-process recycling" practices, energy recovery, treatment, or disposal.

(hh) "Potential to emit" means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. A physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is legally enforceable **and enforceable as a practical matter by the state, local air pollution control agency, or United States environmental protection agency**. Secondary emissions do not count in determining the potential to emit of a stationary source.

(ii) "Predictive emissions monitoring system" or "PEMS" means all of the equipment necessary to monitor process and control device operational parameters (for example, control device secondary voltages and electric currents) and other information (for example, gas flow rate, oxygen or carbon dioxide concentrations), and calculate and record the mass emissions rate (for example, pounds per hour) on a continuous basis.

(jj) "Prevention of significant deterioration" or "PSD" program means the major source preconstruction permit program required by 40 C.F.R. §52.21, adopted by reference in R 336.2801a**,** or R 336.2801 to R 336.2819, R 336.2823 and R 336.2830. A permit issued under this program is a major NSR permit.

(kk) "Project" means a physical change in, or change in method of operation of, an existing major stationary source.

(ll) "Projected actual emissions" means all of the following:

(i) The maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated new source review pollutant in any 1 of the 5 years (12-month period) following the date the unit resumes regular operation after the project, or in any 1 of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that regulated new source review pollutant, and full utilization of the unit would result in a significant emissions increase, or a significant net emissions increase at the major stationary source.

(ii) In determining the projected actual emissions, before beginning actual construction, the owner or operator of the major stationary source shall do all of the following:

(A) Consider all relevant information, including but not limited to, historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the state or federal regulatory authorities, and compliance plans under the state implementation plan.

(B) Include fugitive emissions to the extent quantifiable and emissions associated with startups, shutdowns, and malfunctions.

(C) Exclude, in calculating any increase in emissions that results from the particular project, that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project, including any increased utilization due to product demand growth.

(iii) The owner or operator of a major stationary source may use the emissions unit's potential to emit, in tons per year, instead of calculating projected actual emissions.

(mm) "Reactivation of a very clean coal-fired electric utility steam generating unit" means any physical change or change in the method of operation associated with the commencement of commercial operations by a coal-fired utility unit after a period of discontinued operation where the unit meets all of the following criteria:

(i) The unit was not in operation for the 2-year period before the enactment of the clean air act amendments of 1990, and the emissions from the unit continue to be carried in the department's emissions inventory at the time of enactment.

(ii) The unit was equipped before shutdown with a continuous system of emissions control that achieves a removal efficiency for sulfur dioxide of not less than 85% and a removal efficiency for particulates of not less than 98%.

(iii) The unit was equipped with low-oxides of nitrogen burners before the time of commencement of operations following reactivation.

(iv) The unit otherwise complies with the requirements of the clean air act.

(nn) "Regulated new source review pollutant," for purposes of this rule, means all of the following:

(i) A pollutant for which a national ambient air quality standard has been promulgated and any constituents or precursors for the pollutants identified by the United States environmental protection agency. For example, volatile organic compounds are precursors for ozone.

(ii) A pollutant that is subject to any standard promulgated under section 111 of the clean air act.

(iii) A class I or II substance subject to a standard promulgated under or established by title VI of the clean air act.

(iv) A pollutant that otherwise is subject to regulation under the clean air act; except that any or all hazardous air pollutants either listed in section 112 of the clean air act or added to the list under section 112(b)(2) of the clean air act, which have not been delisted under section 112(b)(3) of the clean air act, are not regulated new source review pollutants unless the listed hazardous air pollutant is also regulated as a constituent or precursor of a general pollutant listed under section 108 of the clean air act.

(oo) "Repowering" means all of the following:

(i) Replacement of an existing coal-fired boiler with 1 of the following clean coal technologies:

(A) Atmospheric or pressurized fluidized bed combustion.

(B) Integrated gasification combined cycle.

(C) Magneto hydrodynamics.

(D) Direct and indirect coal-fired turbines.

(E) Integrated gasification fuel cells.

(F) A derivative of 1 or more of these technologies, and any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of November 15, 1990, as determined by the United States environmental protection agency, in consultation with the Secretary of Energy.

(ii) Repowering shall also include any oil and/or gas-fired unit which has been awarded clean coal technology demonstration funding as of January 1, 1991, by the United States Department of Energy.

(iii) The department shall give expedited consideration to permit applications for any source that satisfies the definition of repowering and is granted an extension under section 409 of the clean air act.

(pp) "Secondary emissions" means emissions which occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source or major modification itself. For this rule, secondary emissions shall be specific, well defined, quantifiable, and impact the same general areas the stationary source modification which causes the secondary emissions. Secondary emissions include emissions from any offsite support facility which would not be constructed or increase its emissions except as a result of the construction or operation of the major stationary source or major modification. Secondary emissions do not include any emissions which come directly from a mobile source, such as emissions from the tailpipe of a motor vehicle, from a train, or from a vessel.

(qq) "Significant" means:

(i) In reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following pollutant emission rates:

(A) Carbon monoxide: 100 tons per year.

(B) Oxides of nitrogen: 40 tons per year.

(C) Sulfur dioxide: 40 tons per year.

(D) Particulate matter: 25 tons per year of particulate matter emissions; 15 tons per year of PM-10 emissions.

(E) Ozone: 40 tons per year of volatile organic compounds.

(F) Lead: 0.6 tons per year.

(G) Fluorides: 3 tons per year.

(H) Sulfuric acid mist: 7 tons per year.

(I) Hydrogen sulfide: 10 tons per year.

(J) Total reduced sulfur, including hydrogen sulfide: 10 tons per year.

(K) Reduced sulfur compounds, including hydrogen sulfide: 10 tons per year.

(L) Municipal waste combustor organics, measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans: $3.2 \times 10{-}6$ megagrams per year or $3.5 \times 10{-}6$ tons per year.

(M) Municipal waste combustor metals, measured as particulate matter: 14 megagrams per year or 15 tons per year.

(N) Municipal waste combustor acid gases, measured as sulfur dioxide and hydrogen chloride: 36 megagrams per year or 40 tons per year.

(O) Municipal solid waste landfill emissions, measured as nonmethane organic compounds: 45 megagrams per year or 50 tons per year.

(ii) ~~Significant means,~~ In reference to a net emissions increase or the potential of a source to emit a regulated new source review pollutant not listed in this definition, any emissions rate.

(iii) ~~Significant also means~~ Any emissions rate or any net emissions increase associated with a major stationary source or major modification, which would construct within 10 kilometers of a class I area, and have an impact on such area equal to or greater than 1 microgram per cubic meter (24-hour average).

(rr) "Significant emissions increase" means, for a regulated new source review pollutant, an increase in emissions that is significant for that pollutant.

(ss) "Stationary source" means any building, structure, facility, or installation which emits or may emit a regulated new source review pollutant.

(tt) "Temporary clean coal technology demonstration project" means a clean coal technology demonstration project that is operated for a period of 5 years or less, and which complies with the state implementation plan and other requirements necessary to attain and maintain the national ambient air quality standards during and after the project is terminated.

R 336.2816 Sources impacting federal class I areas; additional requirements.

Rule 1816. (1) The department shall transmit to the United States environmental protection agency a copy of each permit application relating to a major stationary source or major modification and provide notice to the United States environmental protection agency of every action related to the consideration of the permit.

(2) If the proposed major stationary source or major modification affects a federal class 1 area, ~~the department shall not approve the permit application unless the applicant submits 1 of the following:~~ **the department shall not approve the permit application if the department concurs with a demonstration provided by the federal land manager that the emissions from the proposed major source or major modification would have an adverse impact on the air quality related values of**

class I lands, including visibility, notwithstanding that the change in air quality resulting from emissions from a major source or major modification would not cause or contribute to concentrations that would exceed the maximum allowable increases for a class I area.

(3) If the department determines that the emissions from a proposed major source or major modification would cause or contribute to concentrations which would exceed the maximum allowable increases for a class I area, the department shall not approve a permit application unless 1 of the following occurs:

(a) **The applicant submits** a written certification that the applicant has demonstrated to the federal land manager that the emissions from the proposed major source or major modification would have no adverse impact on the air quality related values of class I lands, including visibility, notwithstanding that the change in air quality resulting from emissions from a major source or major modification would cause or contribute to concentrations~~, which~~ **that** would exceed the maximum allowable increases for a class I area. The department may then, provided that applicable requirements are otherwise met, issue the permit with emission limitations to assure that emissions of sulfur dioxide, particulate matter, and oxides of nitrogen would not exceed the following maximum allowable increases over minor source baseline concentration for the pollutants:

Table 183
Maximum allowable increases over minor source baseline concentrations

Pollutant	Maximum allowable increase (micrograms per cubic meter)
Particulate matter:	
PM-10, annual arithmetic mean	17
PM-10, 24-hour maximum	30
Sulfur dioxide:	
Annual arithmetic mean	20
24-hour maximum	91
3-hour maximum	325
Nitrogen dioxide:	
Annual arithmetic mean	25

~~(b) A written certification that both the governor and the federal land manager have granted a sulfur dioxide variance for the federal class I area.~~

~~(c) A written certification that both the governor and the president have granted a sulfur dioxide variance for the federal class I area.~~

(b) If the department cannot approve the permit application under R 336.2816(3)(a) due to sulfur dioxide emissions resulting in increases greater than those specified in Table 183 for periods of 24 hours or less, the applicant may obtain approval by providing a written certification that the applicant has demonstrated to the federal land manager that the emissions from the proposed major source or major modification would have no adverse impact on the air quality related values of class I lands, including visibility, and that both the governor and the federal land manager have granted a sulfur dioxide variance for the federal class I area on which variance the public has received notice and opportunity for public hearing.

(c) If the department cannot approve the permit application under R 336.2816(3)(a) due to sulfur dioxide emissions resulting in increases greater than those specified in Table 183 for periods of 24 hours or less, and the department cannot approve the permit application under R 336.2816(3)(b) because the federal land manager does not concur with the governor's issuance of a sulfur dioxide variance that is otherwise consistent with R 336.2816(3)(b), the applicant may obtain approval by providing a written certification that the applicant has demonstrated to the president that a sulfur dioxide variance is in the national interest and the president concurs with the issuance of the sulfur dioxide variance by the governor.

~~(d)~~**(4)** The department will not issue a permit affecting a class I area in which a sulfur dioxide variance was granted under **R 336.2816(3)(b) or (c)**, unless the permit includes emission limitations necessary to assure that emissions of sulfur dioxide from the major source or major modification would not, during any day on which the otherwise applicable maximum allowable increases are exceeded, cause or contribute to concentrations which would exceed the following maximum allowable increases over the baseline concentration and to assure that emissions would not cause or contribute to concentrations which exceed the otherwise applicable maximum allowable increases for periods of exposure of 24 hours or less for more than 18 days, not necessarily consecutive, during any annual period.

Table 184
Maximum allowable sulfur dioxide increments

Period of exposure	Maximum Allowable Increase (micrograms per cubic meter)	
	Terrain areas	
	Low	High
24-hour maximum	36	62
3-hour maximum	130	221

R 336.2818 Source obligation.

Rule 1818. (1) Approval to construct shall not relieve an owner or operator of the responsibility to comply fully with applicable provisions of the state implementation plan and any other requirements under local, state, or federal law.

(2) If a particular major source or major modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the major source or major modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of R 336.2810 to R 336.2819 shall apply to the major source or major modification as though construction had not yet commenced on the major source or major modification.

(3) ~~All of the following apply to projects at existing emissions units at a major stationary source, other than projects at a major source with a plantwide applicability limit, where the owner or operator elects to use the method in R 336.2801(ll)(ii)(A) to (C) for calculating projected actual emissions.~~ **All of the following provisions apply to any regulated new source review pollutant emitted from projects at existing emissions units at a major stationary source, other than projects at a major source with a plantwide applicability limit, where there is a reasonable possibility, as defined in R 336.2818(3)(f), that a project that is not a part of a major modification may result in a significant emissions increase of such pollutant, and the owner or operator elects to use the method specified in R 336.2801(ll)(ii)(A) to (C) for calculating projected actual emissions:**

(a) Before beginning actual construction of the project, the owner or operator shall document and maintain a record of all of the following information:

(i) A description of the project.

(ii) Identification of the emissions unit or units whose emissions of a regulated new major source review pollutant may be affected by the project.

(iii) A description of the applicability test used to determine that the project is not a major modification for any regulated new source review pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under R 336.2801(ll)(ii)(C) and an explanation for why such amount was excluded, and any netting calculations, if applicable.

(b) If the emissions unit is an existing electric utility steam generating unit, then before beginning actual construction, the owner or operator shall provide a copy of the information required by subdivision (a) of this subrule to the department. This subdivision does not require the owner or operator of the unit to obtain any determination from the department before beginning actual construction.

(c) The owner or operator shall monitor the emissions of a regulated new source review pollutant that could increase as a result of the project and that is emitted by any emissions unit identified in subdivision (a)(ii) of this subrule; and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity or potential to emit of that regulated new major source review pollutant at the emissions unit.

(d) If the unit is an existing electric utility steam generating unit, then the owner or operator shall submit a report to the department within 60 days after the end of each year during which records are generated under subdivision (c) of this subrule setting out the unit's annual emissions during the calendar year before submission of the report.

(e) If the unit is an existing unit other than an electric utility steam generating unit, then the owner or operator shall submit a report to the department if the annual emissions, in tons per year, from the project exceed the baseline actual emissions by a significant amount for that regulated new source review pollutant, and if such emissions differ from the preconstruction projection. The owner or operator shall submit the report to the department within 60 days after the end of such year. The report shall contain all of the following:

(i) The name, address, and telephone number of the major stationary source.

(ii) The annual emissions as calculated under subdivision (c) of this subrule.

(iii) Any other information that the owner or operator wishes to include in the report; for example, an explanation as to why the emissions differ from the preconstruction projection.

(f) A reasonable possibility occurs when the owner or operator calculates the project to result in either of the following:

(i) A projected actual emissions increase of at least 50% of the amount that is a significant emissions increase, as defined in R 336.2801(rr), without reference to the amount that is a significant net emissions increase for the regulated new source review pollutant.

(ii) A projected actual emissions increase that, added to the amount of emissions excluded under R 336.2801(ll)(ii)(C), sums to at least 50% of the amount that is a significant emissions increase, as defined in R 336.2801(rr), without reference to the amount that is a significant net emissions increase for the regulated new source review pollutant. For a project for which a reasonable possibility occurs only within the meaning of R 336.2818(3)(f)(ii), and not also within the meaning of R 336.2818(3)(f)(i), then the provisions of R 336.2818(3)(b) to (e) do not apply to the project.

(4) The owner or operator of the major source shall make the information required to be documented and maintained under this rule available for review upon request for inspection by the department or the general public under MCL 324.5516(2).

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING
DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

The Michigan Department of Environmental Quality (DEQ), Air Quality Division, will conduct a public hearing on proposed administrative rules promulgated pursuant to Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); Part 18, Prevention of Significant Deterioration (PSD) of Air Quality, R 336.1801, R 336.1816, and R 336.1818. These amendments are being proposed to meet the requirements of the U.S. Environmental Protection Agency for the PSD State Implementation Plan.

The public hearing will be held on June 19, 2008, at 10:00 a.m., in the Brake Conference Room, Constitution Hall, Atrium South, 525 West Allegan Street, Lansing, Michigan.

Copies of the proposed rules (SOAHR 2007-017EQ) can be downloaded from the Internet at: http://www.michigan.gov/deqair. These rules can also be downloaded from the Internet through the State Office of Administrative Hearings and Rules at http://www.michigan.gov/soahr. Copies of the rules may also be obtained by contacting the Lansing office at:

Air Quality Division
Michigan Department of Environmental Quality
P.O. Box 30260
Lansing, Michigan 48909-7760
Phone: 517-335-6989
Fax: 517-241-7499
E-Mail: blaiss@Michigan.gov

All interested persons are invited to attend and present their views. It is requested that all statements be submitted in writing for the hearing record. Anyone unable to attend may submit comments in writing to the address above. Written comments must be received by 5:00 p.m. on June 19, 2008.

Persons needing accommodations for effective participation in the meeting should contact the Air Quality Division at 517-335-6989 one week in advance to request mobility, visual, hearing, or other assistance.

This notice of public hearing is given in accordance with Sections 41 and 42 of Michigan's Administrative Procedures Act, 1969 PA 306, as amended, being Sections 24.241 and 24.242 of the Michigan Compiled Laws. Administration of the rules is by authority conferred on the Director of the DEQ by Sections 5503 and 5512 of Act 451, being Sections 324.5503 and 324.5512 of the Michigan Compiled Laws, and Executive Order 1995-18. These rules will become effective immediately after filing with the Secretary of State.

PROPOSED ADMINISTRATIVE RULES

SOAHR 2007-038

DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY DIVISION

AIR POLLUTION CONTROL

Filed with the Secretary of State on
These rules become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, 45a(6), or 48 of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of environmental quality by sections 5503 and 5512 of 1994 PA 451, MCL 324.5503 and 324.5512, and Executive Reorganization Order No. 1995-18, MCL 324.99903)

R 336.1801, R 336.1802a, R 336.1803, R 336.1821, R 336.1822, R 336.1823, R 336.1830, R 336.1831, R 336.1832, and R 336.1833 of the Michigan Administrative Code are amended as follows:

PART 8. EMISSION LIMITATIONS AND PROHIBITIONS— OXIDES OF NITROGEN

R 336.1801 Emission of oxides of nitrogen from non-sip call stationary sources.

Rule 801. (1) As used in this rule:

(a) "Capacity factor" means either of the following:

(i) The ratio of a unit's actual annual electric output, expressed in megawatt hour, to the unit's nameplate capacity times 8,760 hours.

(ii) The ratio of a unit's annual heat input, expressed in million British thermal units or equivalent units of measure, to the unit's maximum design heat input, expressed in million British thermal units per hour or equivalent units of measure, times 8,760 hours.

(b) “Fossil fuel-fired” means the combustion of fossil fuel, alone or in combination with any other fuel, where the fossil fuel actually combusted comprises more than 50% of the fuel mass or annual heat input on a British thermal unit basis. Coke oven gas is a fossil fuel.

(c) "Low-NO_x burners" means 1 of several developing combustion technologies used to minimize the formation of emissions of nitrogen oxides. As applicable to cement kilns, low-NO_x burners means a type of cement kiln burner system designed to minimize NO_x formation by controlling flame turbulence, delaying fuel/air mixing, and establishing fuel-rich zones for initial combusting, that for firing of solid fuel in the burning end zone of a kiln's main burner includes an indirect firing system or comparable technique for the main burner in the burning end zone of the kiln to minimize the amount of primary air supplied through the burner. In an indirect firing system, 1 air stream is used to convey pulverized fuel

from the grinding equipment and at least 1 or more other air streams are used to supply primary air to the burning end zone kiln burner of the kiln with the pulverized fuel, with intermediate storage of the fuel, and necessary safety and explosion prevention systems associated with the intermediate storage of fuel.

(d) "Mid-kiln system firing" means the secondary firing in a kiln system by injecting solid fuel at an intermediate point in the kiln system using a specially designed heat injection mechanism for the purpose of decreasing NO_x emissions through coal burning part of the fuel at lower temperatures and reducing conditions at the fuel injection point that may destroy some of the NO_x.

(e) "Non-sip call source" means any stationary source of oxides of nitrogen emissions that is not defined as an oxide of nitrogen budget source in R 336.1803.

(f) "Ozone control period" means the period of May 31, 2004, through September 30, 2004, and the period of May 1 through September 30 each subsequent and prior year.

(g) "Peaking unit" means a unit that has an average capacity factor of not more than 10% during the previous 3 calendar years and a capacity factor of not more than 20% in each of those calendar years.

(h) "Process heater" means any combustion equipment which is fired by a liquid fuel or a gaseous fuel, or both, and which is used to transfer heat from the combustion gases to a process fluid, superheated steam, or water.

(i) "Unit" means a fossil fuel-fired combustion device.

(j) "Utility system" means all interconnected units and generators which are subject to subrule (2) of this rule and which are operated by the same utility operating company or by common ownership and control.

(2) An owner or operator of a fossil fuel-fired, electricity-generating utility unit which has the potential to emit more than 25 tons each ozone control period of oxides of nitrogen and which serves a generator that has a nameplate capacity of 25 megawatts or more shall comply with the emission limits during the ozone control period as follows:

(a) By May 31, 2004, meet the least stringent of a utility system-wide average oxides of nitrogen emission rate of 0.25 pounds per million British thermal units heat input or an emission rate based on a 65% reduction of oxides of nitrogen from 1990 levels.

(b) The date listed in subdivision (a) of this subrule may be extended by up to 2 years if an owner or operator makes an acceptable demonstration to the department that the additional time is necessary to avoid disruption of the energy supply in the state or if the additional time is necessary to comply with the provisions of this rule.

(3) An owner or operator shall demonstrate compliance with the emission limits in subrule (2) of this rule as follows:

(a) To demonstrate compliance with a utility system-wide average emission rate, the owner or operator shall show that the sum of the mass emissions from all units owned or operated by a utility that is subject to subrule (2) of this rule which occurred during the ozone control period, divided by the sum of the heat input from all units owned or operated by a utility that is subject to subrule (2) of this rule which occurred during the ozone control period is less than or equal to the limits in subrule (2) of this rule.

(b) To demonstrate compliance with the percent reduction requirements of subrule (2) of this rule, the owner or operator shall provide calculations showing that the utility system average emission rate during each compliance ozone control period has been reduced below the 1990 ozone control period average emission rate by the applicable percent reduction listed in subrule (2) of this rule. The 1990 ozone control period average emission rate is the sum of the mass emissions from all units owned or operated by a utility that is subject to subrule (2) of this rule which occurred during the 1990 ozone control period divided by the sum of the heat input from all units owned or operated by a utility that is subject to subrule (2) of this rule which occurred during the 1990 ozone control period.

(4) By May 31, 2004, an owner or operator of a fossil fuel-fired emission unit which has the potential to emit more than 25 tons of oxides of nitrogen each ozone control period, except for an emission unit that is subject to subrule (2) of this rule, and which has a maximum rated heat input capacity of more than 250 million British thermal units per hour shall comply with the following provisions, as applicable:

(a) An owner or operator of a fossil fuel-fired, electricity-generating utility unit which serves a generator that has a nameplate capacity of less than 25 megawatts which has a maximum rated heat input capacity of more than 250 million British thermal units per hour shall comply with the appropriate oxides of nitrogen emission limit in table 81 of this rule.

(b) An owner or operator of a fossil fuel-fired boiler or process heater shall meet the emission limits contained in table 81 of this rule.

(c) An owner or operator of a gas-fired boiler or process heater that fires gaseous fuel which contains more than 50% hydrogen by volume shall comply with an oxide of nitrogen emission limit of 0.25 pounds per million Btu heat input.

(d) An owner or operator of a stationary internal combustion engine which is subject to the provisions of this rule and which has a maximum rated heat input capacity that is the heat input at 80 degrees Fahrenheit at sea level and takes into account inlet and exhaust losses shall comply with the following oxides of nitrogen emission limits, as applicable:

(i) For a natural gas-fired stationary internal combustion engine - 14 grams of oxides of nitrogen per brake horsepower hour at rated output.

(ii) For a diesel-fired stationary internal combustion engine - 10 grams of oxides of nitrogen per brake horsepower hour at rated output.

(e) An owner or operator of a cement kiln that is subject to the provisions of this rule shall reduce kiln oxides of nitrogen emissions by any of the following methods:

(i) Low oxides of nitrogen burners.

(ii) Mid-kiln system firing.

(iii) A 25% rate-based reduction of oxides of nitrogen from 1995 levels. Compliance with this paragraph shall be based on calculations showing that the emission rate, on a pounds of oxides of nitrogen per ton of clinker produced basis, during each compliance ozone control period, has been reduced below the 1995 ozone control period emission rate by 25%.

(f) An owner or operator of a stationary gas turbine which is subject to the provisions of this rule and which has a maximum rated heat input capacity that is the heat input at 80 degrees Fahrenheit at sea level and takes into account inlet and exhaust losses shall comply with an emission limit of 75 parts per million, dry volume, corrected to 15% oxygen, at rated capacity. The provisions of this rule do not apply to a stationary gas turbine that is subject to a new source performance standard contained in 40 C.F.R. part 60, subpart gg ~~(2001)~~, which is adopted by reference in ~~subrule (7) of this rule~~ **R 336.1802a**.

(g) An owner or operator of an emission unit which is subject to this rule and which is not otherwise subject to the provisions of subdivisions (a) to (f) of this subrule shall submit a proposal for oxides of nitrogen control by November 17, 2000. An owner or operator shall implement the control program by May 31, 2004, or by an alternate date approved by the department. The owner or operator shall obtain department approval of the proposed control program. The proposal for oxides of nitrogen control shall include all of the following information:

(i) A listing of reasonably available oxides of nitrogen control technologies, including the costs of installation and operation, cost of control per ton of oxides of nitrogen reduced, and the projected effectiveness of the proposed control technologies. The owner or operator shall use costing methodologies acceptable to the department.

(ii) The technology selected for controlling oxides of nitrogen emissions from the emission unit, considering technological and economic feasibility.

(iii) A proposal for testing, monitoring, and reporting oxides of nitrogen emissions.

(h) The compliance date listed in this subrule may be extended by up to 2 years if an owner or operator makes an acceptable demonstration to the department that the additional time is necessary to comply with the provisions of this rule. The owner or operator of a unit subject to subrules (2) and 4(a) to (f) of this rule may request an alternate emission limit or control requirement if there is an acceptable demonstration made to the department that compliance with the limits in table 81, or other limits or control requirements, is not reasonable. The request for an alternate emission limit or control requirement shall be submitted to the department within 60 days of the effective date of this amendatory rule and shall include all of the information listed in subdivision (g)(i) to (iii) of this subrule.

(5) The method for determining compliance with the emission limits in subrule (4) of this rule is as follows:

(a) If the emission limit is in the form of pounds of oxides of nitrogen per million British thermal unit, then the unit is in compliance if the sum of the mass emissions from the unit that occurred during the ozone control period, divided by the sum of the heat input from the unit that occurred during the ozone control period, is less than or equal to the limit in subrule (4) of this rule.

(b) For an emission unit not subject to subdivision (a) of this subrule, the method for determining compliance shall be a method acceptable to the department.

(6) An owner or operator of a source of oxides of nitrogen that is subject to the provisions of this rule may participate in Michigan's emission trading program, being R 336. 2201 to R 336.2218.

(7) The owner or operator of an emission unit subject to subrule (2) of this rule shall measure oxides of nitrogen emissions with a continuous emission monitoring system; an alternate method as described in 40 C.F.R. part 60 or 75 and acceptable to the department; or a method currently in use and acceptable to the department, including methods contained in existing permit conditions. The provisions of 40 C.F.R. parts 60 and 75 ~~(2001)~~ are adopted by reference in **R 336.1802a.** ~~these rules. Copies of the regulations may be inspected at the Lansing office of the air quality division of the department of environmental quality. Copies of the regulations may be obtained from the Department of Environmental Quality, Air Quality Division, 525 West Allegan Street, P.O. Box 30260, Lansing, Michigan 48909-7760, or from the Superintendent of Documents, Government Printing Office, P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954, at a cost at the time of adoption of these rules of $53.00 for part 60 and $55.00 for part 75; or on the United States government printing office internet web site at www.access.gpo.gov.~~

(8) The owner or operator of a boiler, process heater, stationary internal combustion engine, stationary gas turbine, cement kiln, or any other stationary emission unit that is subject to the provisions of subrule (4) of this rule shall measure oxides of nitrogen emissions by any of the following:

(a) Performance tests described in subrule (9) of this rule.

(b) Through the use of a continuous emission monitor in accordance with the provisions of subrule (11) of this rule.

(c) According to a schedule and using a method acceptable to the department.

(9) An owner or operator of an emission unit that measures oxides of nitrogen emissions by performance tests as specified in subrule (8) of this rule shall do all of the following:

(a) Conduct an initial performance test not later than 90 days after the compliance deadline. For an emission unit that is not in service on or after the compliance deadline, the owner or operator shall contact the department and schedule an alternate initial performance test as agreed to by the department.

(b) After the initial performance test, conduct a compliance performance test each ozone control period or according to the following schedule:

(i) After 2 consecutive ozone control periods in which the emission unit demonstrates compliance, an owner or operator shall conduct performance tests at least once every 2 years during the ozone control period.

(ii) After a total of 4 consecutive ozone control periods in which the emission unit has remained in compliance, an owner or operator shall conduct performance tests at least once every 5 years during the ozone control period.

(c) If an emission unit is not in compliance at the end of an ozone control period, then the owner or operator shall conduct a compliance performance test each ozone control period, but can again elect to use the alternative schedule specified in subdivision (b) of this subrule.

(d) An owner or operator shall submit 2 copies of each compliance performance test to the department within 60 days of completion of the testing. The test results shall be presented and include data as requested in the department format for submittal of source emission test plans and reports. All performance test reports shall be kept on file at the plant and made available to the department upon request.

(10) An owner or operator of an emission unit who is required to conduct performance testing under subrule (8) of this rule shall submit a test plan to the department, not less than 30 days before the scheduled test date. To ensure proper testing, the plan shall supply the information in the department format for submittal of source emission test plans and reports. The owner or operator shall give the department a reasonable opportunity to witness the tests.

(11) An owner or operator of an emission unit that measures oxides of nitrogen emissions by a continuous emission monitoring system or an alternate method, as specified in subrule (7) or (8) of this rule, shall do either of the following:

(a) Use procedures set forth in 40 C.F.R., part 60, subpart A and appendix B, and comply with the quality assurance procedures in appendix F, or 40 C.F.R., part 75, and associated appendices, as applicable and acceptable to the department. Title 40 C.F.R., parts 60 and 75, are adopted by reference in ~~subrule (7) of this rule~~ **R 336.1802a**.

(b) An owner or operator of an emission unit who uses a continuous emission monitoring system to demonstrate compliance with this rule and who has already installed a continuous emission monitoring system for oxides of nitrogen pursuant to other applicable federal, state, or local rules shall meet the installation, testing, operation, calibration, and reporting requirements specified by federal, state, or local rules.

(12) The owner or operator of an emission unit that is subject to this rule shall submit a summary report, in an acceptable format, to the department within 60 days after the end of each ozone control period. The report shall include all of the following information:

(a) The date, time, magnitude of emissions, and emission rates where applicable, of the specified emission unit or utility system.

(b) If emissions or emission rates exceed the emissions or rates allowed for in the ozone control period by the applicable emission limit, the cause, if known, and any corrective action taken.

(c) The total operating time of the emission unit during the ozone control period.

(d) For continuous emission monitoring systems, system performance information shall include the date and time of each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of the system repairs or adjustments. When the continuous monitoring system has not been inoperative, repaired, or adjusted, the information shall be stated in the report.

(13) Table 81 reads as follows:

Table 81

Boilers and process heaters with heat input capacity of 250 million Btu or more oxides of nitrogen (NO_x) emission limitations (pounds NO_x per million Btu of heat input averaged over the ozone control period)	
Fuel type	Emission limit
Natural gas	0.20
Distillate oil	0.30
Residual oil	0.40
Coal (1) Coal spreader stoker (2) Pulverized coal fired	 0.40 0.40
Gas (other than natural gas)[1]	0.25

For units operating with a combination of gas, oil, or coal, a variable emission limit calculated as the heat input weighted average of the applicable emission limits shall be used. The emission limit shall be determined as follows:

Emission limit = a(0.20) + b(applicable oil limit) + c(applicable coal limit) + d(0.25)

Where:
a = Is the percentage of total heat input from natural gas
b = Is the percentage of total heat input from oil
c = Is the percentage of total heat input from coal
d = Is the percentage of total heat input from gas (other than natural gas)

[1]This may include a mixture of gases. In this case, natural gas may be part of the mixture.

(14) The provisions of this rule do not apply to the following emission unit or units:

(a) A unit that is subject to oxides of nitrogen standards, which have been promulgated in a federal implementation plan under section 110(c) of the clean air act, required under section 126 of the clean air act, or promulgated in a federal regulation under 40 C.F.R. part 51 or part 60 and which are equally stringent or more stringent than this rule.

(b) A unit that is subject to any other rule included in this part.

(c) A peaking unit. The owner or operator shall retain records of capacity for a period of 5 years demonstrating that the unit meets the definition of a peaking unit. The unit shall become subject to the provisions of this rule on January 1 of the year following failure to meet the peaking unit definition.

R 336.1802a Adoption by reference.

Rule 802a. The following documents are adopted by reference in these rules. Copies are available for inspection and purchase at the Air Quality Division, Department of Environmental Quality, 525

West Allegan Street, P.O. Box 30260, Lansing, Michigan 48909-7760, at the cost at the time of adoption of these rules (AQD price). Copies may be obtained from the Superintendent of Documents, Government Printing Office, P.O. Box 371954, Pittsburgh, Pennsylvania, 15250 7954, at the cost at the time of adoption of these rules (GPO price), or on the United States government printing office internet web site at http://www.gpoaccess.gov:

(a) Title 40 C.F.R., part 60, "Standards of Performance for New Stationary Sources" (2007), AQD price $68.00, appendices $67.00; GPO price $58.00, appendices $57.00.

~~(a)~~**(b)** Title 40 C.F.R., §72.2 definitions under the "Acid Rain Program General Provisions" ~~(2006)~~ **(January 24, 2008)**, AQD price $72.00; GPO price $62.00.

~~(b)~~**(c)** Title 40 C.F.R. §72.8, "Retired Units Exemption" ~~(2006)~~ **(January 24, 2008)**, AQD price $72.00; GPO price $62.00

~~(c)~~**(d)** Title 40 C.F.R., part 75, "Continuous Emission Monitoring" ~~(2006)~~ **(January 24, 2008)**, AQD price $72.00; GPO price $62.00.

~~(d)~~**(e)** Title 40 C.F.R., §97.2, 97.102, 97.103, 97.302 and 97.303, definitions under the "Federal Oxides of Nitrogen (NOx) Budget Trading Program and CAIR NOx and Sulfur Dioxide (SO_2) Trading Programs" ~~(2006)~~ **(October 17, 2007)**, AQD price $70.00; GPO price $60.00.

~~(e)~~**(f)** Title 40 C.F.R., part 97; §§97.180 to 97.188 and §§97.380 to 97.388, opt-in provisions under the "Federal Oxides of Nitrogen (NOx) Budget Trading Program and CAIR NOx and Sulfur Dioxide (SO_2) Trading Programs" ~~(2006)~~ **(October 17, 2007)**, AQD price $70.00; GPO price $60.00.

R 336.1803 Definitions.

Rule 803. (1) The provisions of 40 C.F.R. §96.2 are adopted by reference in this rule. The definitions for the oxides of nitrogen budget trading program in 40 C.F.R. §96.2 are applicable to R 336.1802 to R 336.1816. In addition, all of the following definitions apply as indicated, including a modification to the "NOx budget trading program" definition:

(a) "Electric-generating unit (EGU)" means the following:

(i) For units that commenced operation before January 1, 1997, a unit serving a generator during 1995 or 1996 that had a nameplate capacity of more than 25 megawatts and produced electricity for sale.

(ii) For units that commenced operation on or after January 1, 1997, and before January 1, 1999, a unit serving a generator during 1997 or 1998 that had a nameplate capacity of more than 25 megawatts and produced electricity for sale.

(iii) For units that commence operation on or after January 1, 1999, a unit serving a generator at any time that has a nameplate capacity of more than 25 megawatts and produces electricity for sale.

(b) "Large affected unit" means the following:

(i) For units that commenced operation before January 1, 1997, a unit that has a maximum design heat input of more than 250,000,000 Btu's per hour and that did not serve during 1995 or 1996 a generator producing electricity for sale.

(ii) For units that commenced operation on or after January 1, 1997, and before January 1, 1999, a unit that has a maximum design heat input of more than 250,000,000 Btu's per hour and that did not serve during 1997 or 1998 a generator producing electricity for sale.

(iii) For units that commence operation on or after January 1, 1999, a unit that has a maximum design heat input of more than 250,000,000 Btu's per hour and to which either of the following provisions applies:

(A) The unit at no time serves a generator producing electricity for sale.

(B) The unit at any time serves a generator producing electricity for sale, if any such generator has a nameplate capacity of 25 megawatts or less and has the potential to use not more than 50% of the potential electrical output capacity of the unit.

(c) "Michigan fine grid zone" means the geographical area that includes all of the following counties:
(i) Allegan.
(ii) Barry.
(iii) Bay.
(iv) Berrien.
(v) Branch.
(vi) Calhoun.
(vii) Cass.
(viii) Clinton.
(ix) Eaton.
(x) Genesee.
(xi) Gratiot.
(xii) Hillsdale.
(xiii) Ingham.
(xiv) Ionia.
(xv) Isabella.
(xvi) Jackson.
(xvii) Kalamazoo.
(xviii) Kent.
(xix) Lapeer.
(xx) Lenawee.
(xxi) Livingston.
(xxii) Macomb.
(xxiii) Mecosta.
(xxiv) Midland.
(xxv) Monroe.
(xxvi) Montcalm.
(xxvii) Muskegon.
(xxviii) Newaygo.
(xxix) Oakland.
(xxx) Oceana.
(xxxi) Ottawa.
(xxxii) Saginaw.
(xxxiii) Saint Clair.
(xxxiv) Saint Joseph.
(xxxv) Sanilac.
(xxxvi) Shiawassee.
(xxxvii) Tuscola.
(xxxviii) Vanburen.
(xxxix) Washtenaw.
(xxxx) Wayne.

(d) "NOx budget trading program" means a multi-state nitrogen oxides air pollution control and emission reduction program established pursuant to 40 C.F.R. part 96 and part 97. The provisions of 40 C.F.R. part 96 and part 97 are adopted by reference in subrule (2) of this rule.

(e) "Ozone control period" means the period of May 31, 2004, through September 30, 2004, and the period of May 1 to September 30 each subsequent and prior year. The term "ozone control period" replaces the term "control period."

(2) For R 336.1803 to R 336.1816, the provisions of 40 C.F.R. part 96 and part 97 ~~(2006)~~**(2007)** are adopted by reference, except as modified in R 336.1804, R 336.1805, R 336.1808, R 336.1811, R 336.1813, and R 336.1815. Copies may be inspected at the Lansing office of the air quality division of the department of environmental quality. Copies of the regulations may be obtained from the Department of Environmental Quality, Air Quality Division, 525 West Allegan Street, P.O. Box 30260, Lansing, Michigan 48909-7760, at a cost as of the time of adoption of this rule of $70.00. A copy may also be obtained from the Superintendent of Documents, Government Printing Office, P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954, at a cost as of the time of adoption of this rule of $60.00; or on the United States government printing office internet web site at www.access.gpo.gov.

(3) Definitions under the clean air interstate rule NOx ozone season and annual trading programs in 40 C.F.R. §97.102 and §97.302 are applicable to R 336.1821 to R 336.1834. In addition, all of the following definitions apply as indicated:

(a) "Biomass" means ~~wood, wood residue, and wood products (for example, trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); animal litter; vegetative agricultural, and silvicultural materials, such as logging residues (slash), nut and grain hulls, and chaff (for example, almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds~~ **the same as defined in 40 C.F.R §97.102 and §97.302.**

(b) "CAIR" means clean air interstate rule.

~~(c) "Commence commercial operation" means the following:~~

~~(i) For a unit not serving a generator producing electricity for sale, the unit's date of commencement of operation shall also be the unit's date of commencement of commercial operation.~~

~~(ii) For a unit with a date of commencement of operation as defined in this subrule and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit.~~

~~(iii) For a unit with a date for commencement of operation as defined in this subrule and that is subsequently replaced by a unit at the same source (for example, repowered), such date shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation as defined in this subrule as appropriate.~~

(c) "Cogeneration unit" means the same as defined in 40 C.F.R §97.102 and §97.302.

(d) "Commence commercial operations" means the same as defined in 40 C.F.R §97.102 and §97.302.

(e) "Commence operations" means the same as defined in 40 C.F.R §97.102 and §97.302.

(f)~~(d)~~ Electric generating unit or "EGU" means any of the following:

(i) For the purposes of the CAIR NOx ozone season trading program; a CAIR NOx ozone season unit as defined under 40 C.F.R. §97.304,

(ii) **For the purposes of the CAIR NOx ozone season trading program,** electric generating units required to be in Michigan's NOx SIP budget trading program that are not already included under 40 C.F.R. §96.304, which are defined **as the following units located in Michigan's fine grid zone:**

(A) For units that commenced operation before January 1, 1997, a unit serving a generator during 1995 or 1996 that had a nameplate capacity of more than 25 megawatts and produced electricity for sale.

(B) For units that commenced operation on or after January 1, 1997, and before January 1, 1999, a unit serving a generator during 1997 or 1998 that had a nameplate capacity of more than 25 megawatts and produced electricity for sale.

(C) For units that commence operation on or after January 1, 1999, a unit serving a generator at any time that has a nameplate capacity of more than 25 megawatts and produces electricity for sale.

(iii) For purposes of the CAIR NOx annual trading program; a CAIR NOx unit as defined under 40 C.F.R. §97.104.

(g) "Equivalent," for the purpose of allocating allowances pursuant to Michigan's CAIR programs, is determined using equation F.5 in 40 C.F.R. part 75, appendix F.

~~(e)~~**(h)** "Existing EGUs" for allocation purposes under R 336.1821 to R 336.1834, means electric generating units that commenced operations prior to the most recent year of the 5-year period used to calculate the allocations pursuant to these rules.

~~(f)~~**(i)** "Fossil fuel-fired," means as defined in 40 C.F.R. §97.2 for the purposes of determining applicability for units that are considered either of the following:

(i) EGUS as defined pursuant to R 336.1803(3)~~(d)(ii)~~ **(f)**.

(ii) Non-EGUs as defined pursuant to R 336.1803(3)~~(k)~~ **(p)**.

~~(g)~~**(j)** "Fuel types," for the allocation of allowances under Michigan's **CAIR** programs only, means solid, liquid, and gaseous fuel. The following definitions apply to fuel:

(i) "Solid fuel" includes, but is not limited to coal, biomass, tire-derived fuels, and pet coke.

(ii) "Liquid fuel" includes, but is not limited to petroleum-based oils, glycerol, vegetable-based and animal waste-based liquids.

(iii) "Gaseous fuel" includes, but is not limited to coke oven gas, natural gas, propane, coal gas, blast furnace gas, and methane derived from animal wastes.

(k) "Maximum design heat input" means the same as defined in 40 C.F.R §97.102 and §97.302.

~~(h)~~**(l)** "Michigan fine grid zone" means the geographical area that includes all of the following counties:

(i) Allegan.
(ii) Barry.
(iii) Bay.
(iv) Berrien.
(v) Branch.
(vi) Calhoun.
(vii) Cass.
(viii) Clinton.
(ix) Eaton.
(x) Genesee.
(xi) Gratiot.
(xii) Hillsdale.
(xiii) Ingham.
(xiv) Ionia.
(xv) Isabella.
(xvi) Jackson.
(xvii) Kalamazoo.
(xviii) Kent.
(xix) Lapeer.
(xx) Lenawee.
(xxi) Livingston.
(xxii) Macomb.
(xxiii) Mecosta.
(xxiv) Midland.
(xxv) Monroe.
(xxvi) Montcalm.

(xxvii) Muskegon.
(xxviii) Newaygo.
(xxix) Oakland.
(xxx) Oceana.
(xxxi) Ottawa.
(xxxii) Saginaw.
(xxxiii) Saint Clair.
(xxxiv) Saint Joseph.
(xxxv) Sanilac.
(xxxvi) Shiawassee.
(xxxvii) Tuscola.
(xxxviii) Vanburen.
(xxxix) Washtenaw.
(xxxx) Wayne.

(m) "Nameplate capacity" means the same as defined in 40 C.F.R §97.102 and §97.302.

(n) ~~(i)~~ "New EGUs," for allocation purposes under R 336.1821 to R 336.1834, means electric generating units that are commencing operation or projected to commence operation on or after January 1 of the most recent year of the 5-year period used to calculate the allocations pursuant to these rules.

(o)~~(j)~~ "Newly-affected EGUs," for allocation purposes under R 336.1821 to R 336.1834, means existing EGUs located outside the Michigan fine grid zone or existing EGUs located within the Michigan fine grid zone which were exempt from the federal NOx budget program. This definition is applicable for the 2009 CAIR NOx ozone season program only and after that time the newly affected EGUs are considered existing EGUs. This definition excludes the Harbor Beach power plant which was previously included as an EGU in the NOx SIP Budget trading program and is considered existing for the purposes of CAIR NOx ozone season program.

(p)~~(k)~~ "Non-EGUs" means the following units located in Michigan's fine grid zone:

(i) For units that commenced operation before January 1, 1997, a unit that has a maximum design heat input of more than 250,000,000 Btu's per hour and that did not serve during 1995 or 1996 a generator producing electricity for sale.

(ii) For units that commenced operation on or after January 1, 1997, and before January 1, 1999, a unit that has a maximum design heat input of more than 250,000,000 Btu's per hour and that did not serve during 1997 or 1998 a generator producing electricity for sale.

(iii) For units that commence operation on or after January 1, 1999, a unit that has a maximum design heat input of more than 250,000,000 Btu's per hour and to which either of the following provisions applies:

(A) The unit at no time serves a generator producing electricity for sale.

(B) The unit at any time serves a generator producing electricity for sale, if any such generator has a nameplate capacity of 25 megawatts or less and has the potential to use not more than 50% of the potential electrical output capacity of the unit.

~~(l)~~**(q)** "Ozone Season" means May 1 to September 30 of each calendar year.

~~(m)~~**(r)** "Renewable energy source," for allocation purposes under R 336.1821 to R 336.1826, means a source, located in Michigan, that generates electricity by solar, wind, geothermal, or hydroelectric processes, excluding nuclear, that has commenced operation or is projected to commence operation on or after January 1 of the most recent year of the 5-year period used to calculate the allocations pursuant to these rules, which meets all of the following:

(i) Serves a generator at 25 megawatts or greater of electrical output.

(ii) Is not subject to R 336.1801(4)(a) or covered by any other definitions in this rule.

(iii) Captures energy from on-going natural processes.

(iv) Is considered a non-emitting, having zero emissions, source.

~~(n)~~**(s)** "Renewable energy projects," for allocation purposes under R 336.1821 to R 336.1826, means renewable energy sources, located in Michigan and located within the same geographic area that when added together equal a generator greater than 25 megawatts of electrical output.

~~(o)~~**(t)** "Unit" means a fossil fuel-fired stationary boiler, combustion turbine, or combined cycle system, pursuant to EGUs as defined under R 336.1803(3)~~(d)(ii)~~**(f)** and non-EGUs as defined under R 336.1803(3)~~(k)~~ **(p)**.

R 336.1821 CAIR NOx ozone season and annual trading programs; applicability determinations.

Rule 821. (1) This rule establishes Michigan's CAIR ozone season and annual emission budgets and trading programs for all of the following units:

(a) CAIR NOx units as defined pursuant to 40 C.F.R. §97.104.

(b) CAIR NOx ozone season units as defined pursuant to 40 C.F.R §97.304.

(c) All units required to be in the state's NOx SIP call trading program that are not already included under 40 C.F.R. §96.304 and are defined in R 336.1803(3)~~(d)(ii)~~**(f)** and ~~(k)~~ **(p)**.

(d) For purposes of allocating allowances under R 336.1821 to R 336.1826, the following units which are not addressed in subparagraphs (a), (b) and (c) of this subrule are CAIR NOx ozone season units:

(i) Renewable energy sources.

(ii) Renewable energy projects.

(2) An EGU located in Michigan and subject to the requirements pursuant to R 336.1821(a), (b) or (c) shall apply for and receive an annual or ozone season CAIR NOx permit. In addition, non-EGUs as defined in R 336.1803(3)~~(k)~~**(p)** shall apply for and receive an ozone season CAIR NOx permit. This permit shall be administered under R 336.1214 and shall be incorporated into the source's renewable operating permit as an attachment. A federally enforceable NOx budget permit issued under the federal NOx budget program pursuant to R 336.1808 shall remain in effect until the CAIR NOx ozone season permit has been approved by the department.

(3) The fuel type adjusted allocations for each existing EGU shall be determined by multiplying the appropriate NOx emission rate and heat input as determined in accordance with R 336.1822 and R 336.1830 with an appropriate fuel adjustment factor coefficient as follows:

(a) For a solid fuel-fired EGU, the allocation calculations shall be adjusted by multiplying the allocation values by 100%, i.e. 1.0.

(b) For a liquid fuel-fired EGU, the allocation calculations shall be adjusted by multiplying the allocation values by 60%, i.e. 0.60.

(c) For a gaseous fuel-fired EGU, the allocation calculations shall be adjusted by multiplying the allocation values by 40%, i.e. 0.40.

(d) For a multi-fueled EGU, the allocation adjustment calculation shall be a weighted average based on the percentage heat input from each type of fuel burned in the unit, unless the source can demonstrate that certain types of fuel used in the process provided less than 10% of the annual heat input. If so, then the allocation adjustment is calculated based on only those fuel types which contributed 10% or more of the annual heat input.

(4) The owner or operator of any CAIR NOx ozone season or annual unit shall submit ~~all~~ **both** of the following data within 30 days upon request by the department:

(a) A unit's ozone season and annual heat input values or megawatt energy produced, which shall be the same data reported in accordance with 40 C.F.R. part 75 to the extent the unit is subject to 40 C.F.R. part 75 for the period involved.

(b) A unit's total tons of oxides of nitrogen emissions during specified calendar years or ozone seasons as determined under 40 C.F.R. part 75, adopted by reference in R 336.1802.

(5) Effective January 1, 2009, the provisions of R 336.1802, R 336.1803(1) and R 336.1803(2), R 336.1804, R 336.1805, R 336.1806, R 336.1807, R 336.1808, R 336.1809, R 336.1810, R 336.1811, R 336.1812, R 336.1813, R 336.1814, R 336.1815, and R 336.1816 shall not apply to the control period beginning in 2009 or any control period thereafter.

(6) Pursuant to the provisions in 40 C.F.R. 96.54 and for the 2009 control period only, if the U.S. environmental protection agency determines that there were excess emissions during the 2008 control period, deductions for excessive emission penalties shall be taken from the 2009 CAIR NOx ozone season allowances.

(7) Pursuant to any NOx SIP unused set-aside allowances through 2008 that are accumulated within the state account, the department shall allocate these allowances according to R 336.1823.

(8) Permitted emission rate equal to or less than 0.1 pounds per million Btu or its equivalent, for the purposes of allocating allowances pursuant to R 336.1822 and R 336.1830, shall be in a legally enforceable permit to install or renewable operating permit issued on or before August 1, 2008, for the October 2008 allocating time period; on or before August 1, 2011, for the October 2012 allocating time period and thereafter each August 1 of the year that is 3 years after the last year of allocation submittal time period.

R 336.1822 CAIR NOx ozone season trading program; allowance allocations.

Rule 822. (1) The CAIR NOx ozone season trading program budget allocated by the department under subrule (3) of this rule for the CAIR NOx ozone season control periods to the EGUs, non-EGUs, and renewable energy sources shall annually equal the total number of tons of oxides of nitrogen emissions as indicated in the following manner:

(a) The total CAIR NOx ozone season budget for the ozone season time period of 2010 to 2014 is 31,180 tons. These allocations shall be distributed as follows:

(i) The CAIR NOx ozone season budget available to existing and newly-affected EGUs. The following applies:

(A) For 2010 and 2011 ozone season control periods equals 28,321 tons.

(B) For 2012 to 2014 ozone season control periods equals 28,021 tons.

(ii) The CAIR NOx ozone season budget available to existing non-EGUs for the 2010 to 2014 ozone season control periods is 1,309 tons.

(iii) The CAIR NOx ozone season budget available to new non-EGUs and EGUs. The following applies:

(A) For 2010 and 2011 ozone season control periods is 700 tons.

(B) For 2012 to 2014 ozone season control periods is 1,000 tons.

(iv) The CAIR NOx ozone season budget available to renewable energy sources and projects in the 2010 to 2014 ozone season control periods is 200 tons.

(v) The CAIR NOx ozone season budget available to all existing EGUs and non-EGUs that have submitted an acceptable demonstration of a hardship to the department, in the 2010 to 2014 ozone season control periods is 650 tons.

(b) The total CAIR NOx ozone season budget for the ozone season time period of 2015 and thereafter is 26,351 tons. These allocations shall be distributed as follows:

(i) The CAIR NOx ozone season budget available to existing EGUs in the 2015 and thereafter ozone season control periods is 22,792 tons.

(ii) The CAIR NOx ozone season budget available to existing ozone season non-EGUs for the 2015 and thereafter ozone season control periods is 1,309 tons.

(iii) The CAIR NOx ozone season budget available to new non-EGUs and EGUs in the 2015 and thereafter ozone season control periods is 1,400 tons.

(iv) The CAIR NOx ozone season budget available to renewable energy sources and projects in the 2015 and thereafter ozone season control periods is 200 tons.

(v) The CAIR NOx ozone season budget available to all existing EGUs and non-EGUs that have submitted an acceptable demonstration of hardship to the department, in the 2015 and thereafter ozone season control periods is 650 tons.

(2) CAIR NOx allowances for the 2009 ozone season control period shall be the same allowances as were allocated under the NOx budget trading program. For newly-affected EGUs which were not subject to the federal NOx budget program, these units are eligible to apply for allowances from the CAIR NOx ozone season new source set-aside pool for the 2009 ozone season, pursuant to R 336.1823.

(3) The department shall allocate CAIR NOx ozone season allowances to existing EGUs and non-EGU ozone season units for calendar years 2010 and thereafter according to the following schedule:

(a) A 3-year allocation that is 3 years in advance of the 2010 ozone season and 4 years in advance of each subsequent ozone season control period. The 3-year allocation shall be as follows:

(i) By 60 days after the effective date of this rule or April 30, 2007, whichever is earlier, the department shall submit to the U.S. environmental protection agency the CAIR NOx ozone season allowance allocations, under this subrule, for the ozone season control periods in 2010 and 2011.

(ii) By October 31, 2008, the department shall submit to the U.S. environmental protection agency the CAIR NOx ozone season allowance allocations, under this subrule, for the ozone season control periods in 2012, 2013, and 2014.

(iii) By October 31, 2011, and thereafter each October 31 of the year that is 3 years after the last year of allocation submittal, the department shall submit to the U.S. environmental protection agency the CAIR NOx ozone season allowance allocations as indicated under this subrule.

(4) For the CAIR NOx ozone season control periods under subrule (3) of this rule, the department shall allocate allowances to existing EGU and non-EGU ozone season units that commenced operation before January 1 of the most recent year of the 5-year period used to calculate heat input as follows:

(a) The department shall allocate allowances to each existing EGU ozone season unit as follows:

(i) During calendar years 2010 to 2014 as follows:

(A) Existing EGUs with a permitted NOx emission rate equal to or less than 0.10 pounds per million Btu shall receive an initial unadjusted allocation of allowances determined by calculating the arithmetic average of the CAIR target emission rate multiplied by the appropriate fuel adjustment factor plus the unit's permitted emission rate, which is then multiplied by the heat input as determined under subrule (6) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.

$$Allocation = \left[\frac{\left\{ \frac{(CTER \ x FAF) + PER}{2} \right\} x \ HI}{2000 lb / ton} \right]$$

Where:	
Allocation =	**The initial unadjusted NOx allowance allocation, in tons.**
CTER =	**The CAIR target emission rate for 2009 to 2014 of 0.15 pounds per mm Btu.**
FAF =	**Fuel adjustment factor as defined in R 336.1821.**
PER =	**The unit's permitted NOx emission rate as defined in R 336.1821**

HI =	**Average of the unit's 2 highest heat inputs in mm Btu for the appropriate 5 control periods.**

(B) All other existing EGUs shall receive an initial unadjusted allocation of allowances in an amount equaling 0.15 pounds per million Btu multiplied by the appropriate fuel adjustment factor and multiplied by the heat input as determined under subrule (6) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.

~~(A) Units with an allowable NOx emission rate equal to or greater than the CAIR target budget rate of 0.15 pounds per million Btu, and units with no applicable NOx emission rate, shall receive an initial unadjusted allocation of allowances in an amount equaling 0.15 pounds per million Btu multiplied by the appropriate fuel adjustment factor and multiplied by the heat input as determined under subrule (6) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.~~

~~(B) Units with an allowable NOx emission shall receive an initial unadjusted allocation of allowances determined by calculating the arithmetic average of the CAIR target emission rate multiplied by the appropriate fuel adjustment factor plus the unit's allowable emission rate, which is then multiplied by the heat input as determined under subrule (6) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.~~

~~$$Allocation = \left[\frac{\left\{ \frac{(CTER \ x FAF) + AER}{2} \right\} x \ HI}{2000 lb/ton} \right]$$~~

~~Where:~~	
~~Allocation =~~	~~The initial unadjusted NOx allowance allocation, in tons.~~
~~CTER =~~	~~The CAIR target emission rate for 2009 to 2014 of 0.15 pounds per mm Btu.~~
~~FAF =~~	~~Fuel adjustment factor as defined in R 336.1821.~~
~~AER =~~	~~The unit's allowable emission rate.~~
~~HI =~~	~~Average of the unit's 2 highest heat inputs in mm Btu for the appropriate 5 control periods.~~

(ii) During calendar years 2015 and thereafter as follows:

(A) Existing EGUs with a permitted NOx emission rate equal to or less than 0.10 pounds per million Btu shall receive an initial unadjusted allocation of allowances determined by calculating the arithmetic average of the CAIR target emission rate multiplied by the appropriate fuel adjustment factor plus the unit's permitted emission rate, which is then multiplied by the heat input as determined under subrule (6) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.

$$Allocation = \left[\frac{\left\{ \frac{(CTER \ x \ FAF) + PER}{2} \right\} x \ HI}{2000 lb/ton} \right]$$

Where:	
Allocation =	**The initial unadjusted NOx allowance allocation, in tons.**
CTER =	**The CAIR target emission rate for 2015 and thereafter of 0.125 pounds per mm Btu.**
FAF =	**Fuel adjustment factor as defined in R 336.1821.**
PER =	**The unit's permitted NOx emission rate as defined in R 336.1821.**
HI =	**Average of the unit's 2 highest heat inputs in mm Btu for the appropriate 5 control periods.**

(B) All other existing EGUs shall receive an initial unadjusted allocation of allowances in an amount equaling 0.125 pounds per million Btu multiplied by the appropriate fuel adjustment factor and multiplied by the heat input as determined under subrule (6) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.

~~(A) Units with an allowable emission rate equal to or greater than the CAIR target budget rate of 0.125 pounds per million Btu shall receive allowances in an amount equaling 0.125 pounds per million Btu multiplied by the appropriate fuel adjustment factor and multiplied by the heat input as determined under subrule (6) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.~~

~~(B) Units with an allowable emission rate shall receive allowances determined by calculating the arithmetic average of the CAIR target emission rate multiplied by the appropriate fuel adjustment factor plus the unit's allowable emission rate, which is then multiplied by the heat input as determined under subrule (6) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.~~

$$\text{~~Allocation~~} = \left[\frac{\left\{ \frac{(CTER \ x \ FAF) + AER}{2} \right\} x \ HI}{2000 lb/ton} \right]$$

~~Where:~~	
~~Allocation =~~	~~The initial unadjusted NOx allowance allocation, in tons.~~
~~CTER =~~	~~The CAIR target emission rate for 2015 and thereafter of 0.125 pounds per mm Btu.~~
~~FAF =~~	~~Fuel adjustment factor as defined in R 336.1821.~~
~~AER =~~	~~The unit's allowable emission rate.~~
~~HI =~~	~~Average of the unit's 2 highest heat inputs in mm Btu for the appropriate 5 control periods.~~

(b) The department shall allocate allowances to each existing non-EGU ozone season unit for calendar years 2010 to 2015 and thereafter in an amount equaling 0.17 pounds per million Btu or the ~~allowable~~ **permitted NOx** emission rate, **as defined in R 336.1821,** whichever is more stringent, multiplied by the heat input as determined under subrule (6) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.

(5) If the initial total number of CAIR NOx ozone season budget allowances allocated to either all existing EGU or all existing non-EGU ozone season units for the years under subrule (4) of this rule does not equal the budgeted tons for such units as specified in subrule (1) of this rule, then the

department shall adjust up or down the total number of CAIR NOx ozone season budget allowances allocated to each existing EGU or non-EGU, as appropriate, so that the total number of CAIR NOx ozone season budget allowances allocated to the entire group of EGUs or non-EGUs equals the appropriate values in subrule (1) of this rule. The adjustment shall be made by multiplying each unit's unadjusted initial allocation by a correction factor determined by dividing the appropriate existing EGU or non-EGU total budget tons from subrule (1) of this rule by the sum of all existing EGU or non-EGU units' initial unadjusted allocations, and rounding to the nearest whole number, as appropriate.

(6) The heat input, in million Btu's, used for calculating oxides of nitrogen allowance allocations for each subject unit under this rule shall be the unit's average of the 2 highest heat inputs for the ozone season control period in the 5 years immediately preceding the year in which the department is required to submit the oxide of nitrogen allocations. If the unit operated less than 2 full ozone seasons of the 5-year time period, then the unit's single highest ozone season heat input shall be used.

R 336.1823 New EGUs, new non-EGUs, and newly-affected EGUs under CAIR NOx ozone season trading program; allowance allocations.

Rule 823. (1) The department shall establish a set-aside pool for each CAIR NOx ozone season control allocation year for new EGUs and non-EGUs. This set-aside pool shall be allocated on a yearly basis as follows:

(a) For 2009, a total of 1,385 tons of CAIR NOx ozone season allowances, which have been carried over from the federal NOx budget program, for any new and newly-affected EGUs or new non-EGUs.

(b) For years 2010 and 2011, a total of 700 tons of CAIR NOx ozone season allowances for any new EGUs or new non-EGUs.

(c) For years 2012 to 2014 ozone season control periods, a total of 1,000 tons of CAIR NOx ozone season allowances for any new EGUs or new non-EGUs.

(d) For years 2015 and thereafter, a total of 1,400 tons of CAIR NOx ozone season allowances for any new EGUs or new non-EGUs.

(2) The CAIR authorized account representative of a newly-affected CAIR NOx ozone season EGU under this rule may submit to the department a request, in a format specified by the department, to receive CAIR NOx ozone season allowances for the 2009 CAIR NOx ozone season control period. All of the following apply:

(a) The oxides of nitrogen allowance allocation request shall be submitted before March 1 of the 2009 ozone season control period.

(b) The CAIR authorized account representative of any newly-affected EGU may request 2009 CAIR NOx ozone season allowances, based on an amount equaling 0.15 pounds per million Btu multiplied by the unit's ozone season heat input, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.

(c) The heat input, in million Btu's, used for calculating oxides of nitrogen allowance allocations for each subject unit under this rule shall be the unit's average of the 2 highest heat inputs for the ozone season control period in the 5 years immediately preceding the year in which the department is required to submit the oxide of nitrogen allocations. If the unit operated less than 2 full ozone seasons of the 5-year time period, then the unit's single highest heat input shall be used.

(3) The CAIR authorized account representative of a new CAIR NOx ozone season non-EGU under this rule may submit to the department a request, in a format specified by the department, to receive CAIR NOx ozone season allowances starting with the ozone season control period during which the CAIR NOx ozone season unit commenced or is projected to commence operation and ending with the control period preceding the control period for which it shall receive an allocation under R 336.1822. Both of the following apply:

(a) The CAIR NOx ozone season allowance allocation request shall be submitted before March 1 of the year of the first ozone control period for which the oxides of nitrogen allowance allocation is requested and after the date on which the department issues a permit to install for the non-EGU, if required, and each following year by March 1.

(b) The CAIR authorized account representative of any new non-EGU may request CAIR NOx ozone season allowances, based on an amount equaling 0.17 pounds per million Btu or the ~~allowable~~ **permitted** emission rate, whichever is more stringent, multiplied by the nameplate design heat input rate for the unit, in million Btu's per hour, multiplied by the predicted hours of operation for the control period, divided by 2,000 pounds per ton and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.

(4) The CAIR authorized account representative of a new EGU CAIR NOx ozone season unit under this rule may submit to the department a written request, in a format specified by the department, to receive CAIR NOx ozone season allowances, starting with the ozone season control period during which the CAIR NOx ozone season unit commenced or is projected to commence operation and ending with the control period preceding the control period for which it shall receive an allocation under R 336.1822. All of the following apply:

(a) The CAIR NOx ozone season allowance allocation request shall be submitted before March 1 of the year of the first ozone control period for which the oxides of nitrogen allowance allocation is requested and after the date on which the department issues a permit to install for the EGU, if required, and each following year by March 1.

(b) The allocation methodology used for the first ozone season for which each new EGU requests allowances shall be calculated using the following formula*:*

$$Allocation = \frac{1.0 lb\ NOx}{MWh}\ X\ \frac{Size\ of\ unit\ in\ MW\ x\ hours\ of\ operation}{2000\ lb\ /\ ton}\ X\ 70\%$$

Where:	
Allocation =	The unadjusted NOx allowance allocation, in tons.
1.0 lb NOx/MWh =	The factor for allocating NOx allowances based on gross electric generation.
Size of the unit =	The nameplate capacity, as defined in the CAIR NOx program of the EGU in megawatts.
Hours of Operation =	Predicted hours of operation per control period.
MWh =	Megawatt hours.

(c) The allocation methodology used for each consecutive ozone season for which each new EGU requests allowances shall be calculated using the following formula*:*

$$Allocation = \frac{1.0 lb\ NOx}{MWh}\ X\ \frac{Actual\ Megawatt\ hours}{2000\ lb\ /\ ton}$$

Where:	
Allocation =	The unadjusted NOx allowance allocation, in tons.
1.0 lb NOx/MWh =	The factor for allocating NOx allowances based on gross electric generation.
Actual megawatt hours =	The actual megawatt hours of electricity generated during the control period immediately preceding the request.
MWh =	Megawatt hours.

(d) When the new EGU has been placed in the existing pool, the calculation methods under R 336.1822 apply.

(5) The department shall review and allocate oxides of nitrogen allowances pursuant to each allocation request on a pro rata basis as follows:

(a) Upon receipt of the CAIR NOx unit's allowance allocation request, the department shall determine whether allowances are available and shall make necessary adjustments to the request to ensure that for the CAIR NOx ozone season control period, the number of allowances specified, are consistent with the requirements of subrule (1) of this rule.

(b) If the allocation set-aside pool for the CAIR NOx ozone season control period for which CAIR NOx ozone season allowances are requested has an amount greater than or equal to the number requested, as adjusted under subdivision (a) of this subrule, then the department shall allocate the amount of the CAIR NOx ozone season allowances requested.

(c) If the allocation set-aside pool for the CAIR NOx ozone season control period for which CAIR NOx ozone season allowances are requested has an amount of oxides of nitrogen allowances less than the number requested, as adjusted under subdivision (a) of this subrule, then the department shall proportionately reduce the number of CAIR NOx ozone season allowances allocated to each CAIR NOx ozone season unit so that the total number of CAIR NOx ozone season allowances allocated are equal to the amounts referenced in subrule (1)(a), (b)**,** ~~**or**~~ (c) **or (d)** of this rule.

(6) CAIR NOx ozone season allowances not allocated or requested that remain in the new source set-aside pool for any allocation year shall be re-allocated to the existing EGU and non-EGU source pools, using the allocation methodologies as outlined in R 336.1822 and based on a ratio of the number of allowances remaining in the pool and the number of allowances in the EGU's and non-EGU's budget.

(7) Not later than July 31 of the year for which the allowances are allocated, the department shall submit to the U.S. environmental protection agency the CAIR NOx ozone season allowance allocations, as determined under this rule.

R 336.1830 CAIR NOx annual trading program; allowance allocations.

Rule 830. (1) The CAIR NOx annual trading program budget allocated by the department for the CAIR NOx annual control periods shall annually equal the total number of tons of oxides of nitrogen emissions as follows and apportioned to the CAIR NOx EGUs, as determined by the procedures in this rule. These allocations shall be distributed in the following manner:

(a) The total CAIR NOx annual budget for the annual control periods of 2009 to 2014 is 65,304 tons. These allocations shall be distributed in the following manner:

(i) The CAIR NOx annual budget available to existing EGUs as follows:

(A) For the 2009 through 2011 annual control periods is 63,104.

(B) For the 2012 through 2014 annual control periods is 62,704.

(ii) The CAIR NOx annual budget available to new EGUs as follows:

(A) For the 2009 through 2011 annual control periods is 1,000 tons.

(B) For the 2012 through 2014 annual control periods is 1,400 tons.

(iii) The CAIR NOx annual budget available to all existing EGUs that have submitted an acceptable demonstration of a hardship to the department, in the 2009 to 2014 annual control periods is 1,200 tons.

(b) The total CAIR NOx annual budget for the annual control periods of 2015 and thereafter is 54,420 tons. These allocations shall be distributed as follows:

(i) The CAIR NOx annual budget available for existing EGUs in the 2015 and thereafter annual control periods is 51,820 tons.

(ii) The CAIR NOx annual budget available for new EGUs in the 2015 and thereafter annual control periods is 1,400 tons.

(iii) The CAIR NOx annual budget available to all existing EGUs that have submitted an acceptable demonstration of a hardship to the department, in the 2015 and thereafter annual control periods is 1,200 tons.

(2) The department shall allocate CAIR NOx annual budget allowances to existing EGUs. A 3-year allocation is 2 and 3 years in advance of the 2009 and 2010 annual control period, respectively, and 4 years in advance of each subsequent annual control period. The 3-year allocation shall be as follows:

(a) By 60 days after the effective date of this rule or April 30, 2007, whichever is earlier, the department shall submit to the U.S. environmental protection agency the CAIR NOx annual allowance allocations, under subrule (3) of this rule, for the annual control periods in 2009, 2010, and 2011.

(b) By October 31, 2008, the department shall submit to the U.S. environmental protection agency the CAIR NOx annual allowance allocations, under subrule (3) of this rule, for the annual control periods in 2012, 2013, and 2014.

(c) By October 31, 2011, and thereafter each October 31 of the year that is 3 years after the last year of allocation submittal, the department shall submit to the U.S. environmental protection agency the CAIR NOx annual allowance allocations as indicated under subrule (3) of this rule.

(3) For the CAIR NOx annual control periods under subrules (1)(a) and (b) of this rule, the department shall allocate allowances to existing EGU units that commenced operation before January 1 of the most recent year of the 5-year period used to calculate heat input. The department shall allocate the following allowances to each existing EGU:

(a) During calendar years 2009 to 2014**, the following**:

(i) Existing EGUs with a permitted NOx emission rate equal to or less than 0.10 pounds per million Btu shall receive an initial unadjusted allocation of allowances determined by calculating the arithmetic average of the CAIR target emission rate multiplied by the appropriate fuel adjustment factor plus the unit's permitted emission rate, which is then multiplied by the heat input as determined under subrule (4) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.

$$Allocation = \left[\frac{\left\{ \frac{(CTER\ X\ FAF) + PER}{2} \right\} X\ HI}{2000\, lb/ton} \right]$$

Where:	
Allocation =	**The initial unadjusted NOx allowance allocation, in tons.**
CTER =	**The CAIR target emission rate of 0.15 pounds per mm Btu for 2009 through 2014.**
FAF =	**Fuel adjustment factor.**
PER =	**The unit's permitted emission rate as defined in R 336. 1821**
HI =	**Average of the unit's 2 highest heat inputs in mm Btu for the appropriate 5 control periods.**

(ii) All other existing EGUs shall receive an initial unadjusted allocation of allowances in an amount equaling 0.15 pounds per million Btu multiplied by the appropriate fuel adjustment factor and multiplied by the heat input as determined under subrule (4) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.

~~(i) Units with an allowable NOx emission rate equal to or greater than the CAIR target budget rate of 0.15 pounds per million Btu shall receive an initial unadjusted allocation of allowances in an amount equaling 0.15 pounds per million Btu multiplied by the appropriate fuel adjustment factor and multiplied by the heat input as determined under subrule (4) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.~~

~~(ii) Units with an allowable emission rate shall receive allowances determined by calculating the arithmetic average of the CAIR target emission rate multiplied by the appropriate fuel adjustment factor plus the unit's allowable emission rate, which is then multiplied by the heat input as determined under subrule (4) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.~~

$$\text{~~Allocation~~} = \left[\frac{\left\{ \frac{(CTER \ X \ FAF) + AER}{2} \right\} X \ HI}{2000 \ lb / ton} \right]$$

~~Where:~~	
~~Allocation =~~	~~The unadjusted NOx allowance allocation, in tons.~~
~~CTER =~~	~~The CAIR target emission rate for 2009 through 2014.~~
~~FAF =~~	~~Fuel adjustment factor as defined in R 336.1821.~~
~~AER =~~	~~The unit's allowable emission rate of 0.15 pounds per mm Btu.~~
~~HI =~~	~~Average of the unit's 2 highest heat inputs in mm Btu for the appropriate 5 control periods.~~

(b) During calendar years 2015 and thereafter, the following apply:

(i) Existing EGUs with a permitted NOx emission rate equal to or less than 0.10 pounds per million BTUs shall receive allowances determined by calculating the arithmetic average of the CAIR target emission rate multiplied by the appropriate fuel adjustment factor plus the unit's permitted emission rate, which is then multiplied by the heat input as determined under subrule (4) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.

$$Allocation = \left[\frac{\left\{ \frac{(CTER \ X \ FAF) + PER}{2} \right\} X \ HI}{2000 \, lb / ton} \right]$$

Where:	
Allocation =	**The initial unadjusted NOx allowance allocation, in tons.**
CTER =	**The CAIR target emission rate of 0.125 pounds per mm Btu for 2015 and thereafter.**
FAF =	**Fuel adjustment factor as defined in R 336.1821.**
PER =	**The unit's permitted emission rate.**
HI =	**Average of the unit's 2 highest heat inputs in mm Btu for the appropriate 5 control periods.**

(ii) All other existing EGUs shall receive an initial unadjusted allocation of allowances in an amount equaling 0.125 pounds per million Btu multiplied by the appropriate fuel adjustment factor and multiplied by the heat input as determined under subrule (4) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.

~~(i) Units with an allowable NOx emission rate equal to or greater than the CAIR target budget rate of 0.125 pounds per million Btu shall receive an initial unadjusted allocation of allowances in an amount equaling 0.125 pounds per million Btu multiplied by the appropriate fuel adjustment factor and multiplied by the heat input as determined under subrule (4) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.~~

~~(ii) Units with an allowable emission rate shall receive allowances determined by calculating the arithmetic average of the CAIR target emission rate multiplied by the appropriate fuel adjustment factor plus the unit's allowable emission rate, which is then multiplied by the heat input as determined under subrule (4) of this rule, divided by 2,000 pounds per ton, and rounded to the nearest whole oxides of nitrogen allowance, as appropriate.~~

$$\text{Allocation} = \left[\frac{\left\{ \frac{(CTER \ X \ FAF) + AER}{2} \right\} X \ HI}{2000 \ lb / ton} \right]$$

Where:	
Allocation =	The unadjusted NOx allowance allocation, in tons.
CTER =	The CAIR target emission rate for 2015 and thereafter.
FAF =	Fuel adjustment factor as defined in R 336.1821.
AER =	The unit's allowable emission rate of 0.125 pounds per mm Btu.
HI =	Average of the unit's 2 highest heat inputs in mm Btu for the appropriate 5 control periods.

(4) The heat input, in million Btu's, used for calculating oxides of nitrogen allowance allocations for each subject unit under this rule shall be the unit's average of the 2 highest heat inputs for the annual control period in the 5 years immediately preceding the year in which the department is required to submit the oxide of nitrogen allocations. If the unit operated less than 2 years of the 5-year time period, then the unit's single highest heat input shall be used.

(5) If the initial total number of CAIR NOx annual budget allowances allocated to all existing EGUs for the years under subrule (3) of this rule does not equal the budgeted tons for such units as specified in subrule (1) of this rule, then the department shall adjust up or down the total number of CAIR NOx annual budget allowances allocated to each existing EGU so that the total number of CAIR NOx annual budget allowances allocated to the entire group of EGUs equals the appropriate value in subrule (1) of this rule. The adjustment shall be made by multiplying each unit's unadjusted initial allocation by a correction factor determined by dividing the appropriate existing EGU total annual budget tons from subrule (1) of this rule by the sum of all existing EGU's initial unadjusted allocations, and rounding to the nearest whole ton, as appropriate.

R 336.1831 New EGUs under CAIR NOx annual trading program; allowance allocations.

Rule 831. (1) The department shall establish a set-aside pool for each CAIR NOx annual control allocation year. This set-aside pool shall be allocated on a yearly basis as follows:

(a) For years 2009 to 2011, a total of 1,000 tons of CAIR NOx annual budget allowances available for new EGUs.

(b) For years 2012 and thereafter, a total of 1,400 tons of CAIR NOx annual budget allowances available for new EGUs.

(2) The CAIR authorized account representative of a new EGU under this rule may submit to the department a written request, in a format specified by the department, to receive CAIR NOx annual allowances, starting with the annual control period during which the EGU commenced or is projected to commence operation and ending with the control period preceding the control period for which it shall receive an allocation under R 336.1830.

(a) The oxides of nitrogen allowance allocation request shall be submitted before September 1 of the year of the first annual control period for which the ~~oxides of nitrogen~~ allowance allocation is requested and after the date on which the department issues a permit to install for the new EGU, if required, and each following year by September 1.

(b) The allocation methodology used for the first annual control period for which each new EGU requests allowances shall be calculated using the following formula:

$$Allocation = \frac{1.0 lb\ NOx}{MWh}\ X\ \frac{Size\ of\ unit\ in\ MW\ x\ hours\ of\ operation}{2000\ lb\ /\ ton}\ X\ 70\%$$

Where:	
Allocation =	The unadjusted NOx allowance allocation, in tons.
1.0 lb NOx/MWh =	The factor for allocating NOx allowances based on gross electric generation.
Size of the unit =	The nameplate capacity, as defined in the CAIR NOx program, of the EGU in megawatts.
Hours of operation =	Predicted hours of operation per control period.
MWh =	Megawatt hours.

(c) The allocation methodology used for each consecutive annual control period for which each new EGU requests allowances shall be calculated using the following formula:

$$Allocation = \frac{1.0 lb\ NOx}{MWh}\ X\ \frac{Actual\ Megawatt\ hours}{2000\ lb\ /\ ton}$$

Where:	
Allocation =	The unadjusted NOx allowance allocation, in tons.
1.0 lb NOx/MWh =	The factor for allocating NOx allowances based on gross electric generation.
Actual megawatt hours =	The actual megawatt hours of electricity generated during the control period immediately preceding the request.
MWh =	Megawatt hours.

(d) Once the new EGU has been placed in the existing pool, the calculation methods under R 336.1830 apply.

(3) The department shall review and allocate oxides of nitrogen allowances pursuant to each allocation request on a pro rata basis as follows:

(a) Upon receipt of the CAIR NOx unit's allowance allocation request, the department shall determine whether allowances are available and shall make necessary adjustments to the request to

ensure that for the CAIR NOx annual control period, the numbers of allowances specified are consistent with the requirements of subrule (1) of this rule.

(b) If the allocation set-aside pool for the CAIR NOx annual control period for which CAIR NOx annual budget allowances are requested has an amount greater than or equal to the number requested, as adjusted under subdivision (a) of this subrule, then the department shall allocate the amount of the CAIR NOx annual budget allowances requested.

(c) If the allocation set-aside pool for the CAIR NOx annual control period for which CAIR NOx annual budget allowances are requested has an amount of oxides of nitrogen allowances less than the number requested, as adjusted under subdivision (a) of this subrule, then the department shall proportionately reduce the number of CAIR NOx annual budget allowances allocated to each CAIR NOx unit so that the total number of CAIR NOx annual budget allowances allocated are equal to the amounts referenced in subrule (1)(a) or (b) of this rule.

(4) CAIR NOx annual allowances not allocated or requested that remain in the new source set-aside pool for any allocation year shall be re-allocated to the existing EGU source pool, using the allocation methodologies as outlined in R 336.1830.

R 336.1832 CAIR NOx annual trading program; hardship set-aside.

Rule 832. (1) After the provisions of R 336.1830 have been followed, an owner or operator may pursue a request for hardship allowances. These requests must be submitted not later than 30 days prior to the deadline for department submittals to the U.S. environmental protection agency as described in R 336.1830.

(2) For existing EGUs subject to the CAIR NOx annual budget, the department shall allocate CAIR NOx hardship allowances under the following procedures:

(a) The department shall establish a hardship allocation set-aside pool for each CAIR NOx annual allocation year for existing EGUs. This hardship set-aside pool shall be allocated on a yearly basis and contains 1,200 tons of CAIR NOx annual allowances per allocation year.

(b) Hardship allowances may be allocated to an EGU ~~or non-EGU,~~ if the requesting authorized account representative demonstrates both of the following:

(i) The owner or operator of the EGU has less than 250 employees within its company or its electric generating division or department.

(ii) The controls required for the EGU under this part result in excessive or prohibitive costs for compliance, pursuant to the procedures in subrule (3) of this rule.

(c) The CAIR authorized account representative of a CAIR NOx unit under this rule may submit to the department a written request, in a format specified by the department, to receive CAIR NOx annual hardship allowances. The authorized account representative shall submit the request for the amount of estimated hardship allowances they need, using historical annual heat input utilization levels multiplied by historical oxides of nitrogen emission rates, in the following manner:

(i) Historical heat input utilization levels shall be based on the unit's average of the 2 highest heat input utilization levels for the annual control period in the 5 years immediately preceding the year in which the department is required to submit the oxides of nitrogen allocations to the U.S. environmental protection agency. If the unit operated less than 2 years during the 5-year time period, then the unit's single highest heat input level shall be used.

(ii) Historic oxides of nitrogen rates shall be based on the oxides of nitrogen rate reported by the authorized account representative in its 40 C.F.R. part 75 reports to the U.S. environmental protection agency in the calendar year immediately preceding the year in which the department is required to submit the oxides of nitrogen allocation.

(iii) Units receiving hardship allowances shall receive a 3-year allocation that is 2 and 3 years in advance of the 2009 and 2010 annual control periods, respectively, and 4 years in advance of each subsequent annual control period. The 3-year allocation shall be the same as provided in R 336.1830(2).

(d) The department shall allocate the allowances based on the requests received as follows:

(i) If the allocation hardship set-aside pool for the CAIR NOx annual control period for which CAIR NOx annual allowances are requested has an amount of oxides of nitrogen allowances greater than or equal to the number requested, then the department shall allocate the amount of the CAIR NOx annual budget allowances requested.

(ii) If the allocation hardship set-aside pool for the CAIR NOx annual control period for which CAIR NOx annual allowances are requested has an amount of oxides of nitrogen allowances less than the number requested, then the department shall proportionately reduce the number of CAIR NOx annual allowances allocated to each CAIR NOx annual unit so that the total number of CAIR NOx annual allowances allocated are equal to the amounts referenced in subdivision (a) of this subrule.

(3) The department shall allocate CAIR NOx annual hardship allowances to existing EGUs which have submitted an engineering analysis as described as follows:

(a) The authorized account representative shall demonstrate to the department that the control level required pursuant to this rule results in excessive or prohibitive cost for compliance. The demonstration shall include all of the following:

(i) An engineering study analyzing all control options that are technically available for the unit, including control options that would achieve a level of control meeting, at a minimum, a 0.15 pound per million Btu emission rate.

(ii) The annualized cost associated with each control option. An annualized cost of more than $2,400 per ton of oxides of nitrogen reduced shall generally be considered to be an excessive cost for compliance with this rule.

(iii) Other considerations that contribute to prohibitive cost of compliance.

(b) For a source to remain eligible for hardship allowances under this rule after the initial 3-year allocation period, ending on December 31, 2011, the state may require a revised engineering analysis and demonstration as detailed under subrule (3)(a) of this rule, at a minimum of once every 3 years.

R 336.1833 CAIR NOx annual trading program; compliance supplement pool.

Rule 833. (1) The department shall allow sources required to implement CAIR NOx control measures by January 1, 2009, and subject to this rule to demonstrate compliance using allowances issued from the compliance supplement pool under this rule, as follows:

(a) The total number of CAIR NOx allowances available to existing EGUs, for early reduction purposes from the compliance supplement pool, shall not be more than 6,491 tons of oxides of nitrogen.

(b) The total number of CAIR NOx allowances available for the newly-affected EGUs, for hardship purposes from the compliance supplement pool, shall not be more than 1,856 tons of oxides of nitrogen.

(c) Any CAIR NOx allowances that remain in the compliance supplement pool after the 2009 control period shall be retired.

(d) Sources that receive allowances according to the requirements of this rule may trade the allowance to other sources or persons according to the provisions in the CAIR NOx annual trading program.

(2) The department shall issue early reduction allowances to existing EGUs as follows:

(a) The emissions reduction shall not be required by Michigan's state implementation plan, state law, or rule, or be otherwise required by federal law.

(b) The emissions reduction shall be verified by the source as actually having occurred during the calendar years of 2007 and 2008.

(c) Each CAIR NOx unit for which the owner or operator requests any early reduction allowances under this rule shall monitor oxides of nitrogen emissions under 40 C.F.R. part 75, subpart H, which are adopted by reference in R 336.1802a, starting not less than 1 calendar year before the annual control period for which the early reduction allowances are requested. The unit's monitoring system availability shall be not less than 90 percent during the control period in which monitoring occurs for this purpose and the unit shall be in compliance with any applicable state or federal emissions or emissions-related requirements.

(d) The emissions reduction shall be quantified according to procedures set forth in 40 C.F.R. part 75, subpart H.

(e) The emissions reduction request shall include both of the following:

(i) The CAIR NOx authorized account representative may request early reduction allowances for the annual control period in an amount equal to the unit's heat input for the year, multiplied by the difference between the rates in both of the following provisions, divided by 2,000 pounds per ton, and rounded to the nearest ton:

(A) The oxides of nitrogen emission limit required by Michigan's state implementation plan, otherwise required by the clean air act, or 0.25 pound per million Btu heat input, whichever is most stringent.

(B) The unit's actual oxides of nitrogen emission rate for the 2007 and 2008 calendar years, which shall be lower than the rate used in subparagraph (A) of this paragraph and less than 80% of the actual 2005 annual oxides of nitrogen emission rate, expressed as pound per million Btu heat input.

(ii) The early reduction allowance request shall be submitted in writing, in a format specified by the department, not later than July 1, 2009, for the 2007 and 2008 control periods.

(f) The department shall allocate CAIR NOx allowances to CAIR NOx units meeting the requirements of this subdivision and requesting early reduction allocations, in the following manner:

(i) Upon receipt of each early reduction allowance request, the department shall accept the request only if the requirements of subdivisions (a) to (e) of this subrule are met and, if the request is accepted, shall make any necessary adjustments to the request to ensure that the amount of the early reduction allowances requested meets the requirement of subdivisions (a) to (e) of this subrule.

(ii) If the compliance supplement pool has an amount of CAIR NOx allowances equal to or greater than the number of early reduction allowances in all accepted early reduction allowance requests for 2007 and 2008, as adjusted under paragraph (i) of this subdivision, the department shall allocate to each CAIR NOx unit covered by the accepted requests 1 allowance for each early reduction allowance requested, as adjusted under paragraph (i) of this subdivision.

(iii) If the compliance supplement pool has an amount of CAIR NOx allowances less than the number of early reduction allowances in all accepted early reduction allowance requests for 2007 and 2008, as adjusted under paragraph (i) of this subdivision, the department shall allocate CAIR NOx allowances to each CAIR NOx unit covered by the accepted requests according to the following formula and rounding to the nearest whole allowance as appropriate:

$$Allocated\ ERC = \left(\frac{Units\ ERC\ requested}{Total\ requested\ ERC} \right) x\ Available\ CAIR\ NOx\ Allowances$$

Where:	
ERC =	Early reduction allowances.
Allocated ERCs =	Each unit's allocated early reduction allowances.
Total requested ERCs =	The total amount of ERCs requested by all units from the compliance supplement pool.

Available CAIR NOx Allowances =	The total amount of allowances available from the early reduction portion of the compliance supplement pool.

(3) The department shall issue hardship allowances to newly-affected EGUs for which compliance with the CAIR NOx emissions limitations would create an undue risk to the reliability of electricity supply during the 2009 control period. The CAIR NOx authorized account representative of the newly-affected EGU may request the allocation of CAIR NOx allowances from the compliance supplement pool under subrule (1)(b) of this rule, pursuant to the following:

(a) The CAIR NOx authorized account representative shall submit to the department by July 1, 2009, a written request, in a format specified by the department, for allocation of an amount of CAIR NOx allowances from the compliance supplement pool not exceeding the minimum amount of CAIR NOx allowances necessary to remove the undue risk to the reliability of electricity supply.

(b) The CAIR NOx authorized account representative shall demonstrate that, in the absence of allocation of the amount of CAIR NOx allowances requested, the unit's compliance with the CAIR NOx emissions limitation for the 2009 control period would create an undue risk to the reliability of electricity supply during the 2009 control period. This demonstration shall include both of the following:

(i) A showing that it would not be possible for the owners and operators of the unit to obtain sufficient amounts of electricity from other electric generation facilities during the installation of control technology at the unit for compliance with the CAIR NOx emission limitation to prevent such undue risk.

(ii) A showing that it would not be possible for the owners and operators of the unit to obtain sufficient amounts of allowances under subrule (2) or from other sources or persons to prevent such undue risk.

(c) The department shall review each request submitted by July 1, 2009, and allocate CAIR NOx allowances for the 2009 control period to requesting ~~Michigan CAIR NOx~~ units as follows:

(i) Upon receipt of each hardship request, the department shall accept the request only if the requirements of subdivisions (a) and (b) of this subrule are met and, if the request is accepted, shall make any necessary adjustments to the request to ensure that the amount of the CAIR NOx hardship allowances requested meets the requirements of subdivisions (a) and (b) of this subrule.

(ii) If the compliance supplement pool has an amount of CAIR NOx hardship allowances equal to or greater than the number of CAIR NOx allowances in the hardship requests, the department shall allocate to each CAIR NOx unit the amount of CAIR NOx allowances requested, as adjusted under paragraph (i) of this subdivision.

(iii) If the compliance supplement pool has an amount of CAIR NOx allowances less than the number of hardship allowances in all accepted hardship requests, as adjusted under paragraph (i) of this subdivision, the department shall allocate CAIR NOx allowances to each CAIR NOx unit covered by the accepted requests according to the following formula and rounding to the nearest whole allowance as appropriate:

$$Adjusted\ Allocation = Requested\ Allocation\ X \left(\frac{Available\ Pool\ Allocations}{Total\ adjusted\ allocation\ for\ all\ units} \right)$$

Where:	
Adjusted allocation =	The number of CAIR NOx hardship allowances allocated to the unit from the state's compliance supplement pool.

Requested allocation =	The amount of CAIR NOx hardship allowances requested for the unit.
Available pool allocations =	The amount of CAIR NOx hardship allowances in the state's compliance supplement pool.
Total adjusted allocations for all units =	The sum of the amounts of hardship allocations requested for all units, as adjusted.

(4) The department shall complete its review process not later than September 1, 2009. By November 30, 2009, the department shall determine, and submit to the U.S. environmental protection agency, the allocations under subrules (2) or (3) of this rule.

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING
DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

The Michigan Department of Environmental Quality (DEQ), Air Quality Division, will conduct a public hearing on proposed administrative rules promulgated pursuant to Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); Part 8, Emission Limitations and Prohibitions—Oxides of Nitrogen, R 336.1801, R 336.1802a, R 336.1803, R 336.1821 to R 336.1823, and R 336.1830 to R 336.1833. These amendments are being proposed to meet the requirements of the U.S. Environmental Protection Agency's (EPA's) Clean Air Interstate Rule (CAIR). The revisions address deficiencies noted by the EPA in their December 2007 conditional approval of the DEQ's original Michigan State Implementation Plan (SIP) submitted to EPA in July of 2007. These rules will become part of the SIP upon final promulgation.

The public hearing will be held on June 19, 2008, at 10:00 a.m., in the Brake Conference Room, Constitution Hall, Atrium South, 525 West Allegan Street, Lansing, Michigan.

Copies of the proposed rules (SOAHR 2007-038EQ) can be downloaded from the Internet at: http://www.michigan.gov/deqair. These rules can also be downloaded from the Internet through the State Office of Administrative Hearings and Rules at http://www.michigan.gov/soahr. Copies of the rules may also be obtained by contacting the Lansing office at:

Air Quality Division
Michigan Department of Environmental Quality
P.O. Box 30260
Lansing, Michigan 48909-7760
Phone: 517-335-6989
Fax: 517-241-7499
E-Mail: blaiss@Michigan.gov

All interested persons are invited to attend and present their views. It is requested that all statements be submitted in writing for the hearing record. Anyone unable to attend may submit comments in writing to the address above. Written comments must be received by 5:00 p.m. on June 19, 2008.

Persons needing accommodations for effective participation in the meeting should contact the Air Quality Division at 517-335-6989 one week in advance to request mobility, visual, hearing, or other assistance.

This notice of public hearing is given in accordance with Sections 41 and 42 of Michigan's Administrative Procedures Act, 1969 PA 306, as amended, being Sections 24.241 and 24.242 of the Michigan Compiled Laws. Administration of the rules is by authority conferred on the Director of the DEQ by Sections 5503 and 5512 of Act 451, being Sections 324.5503 and 324.5512 of the Michigan Compiled Laws, and Executive Order 1995-18. These rules will become effective immediately after filing with the Secretary of State.

PROPOSED ADMINISTRATIVE RULES

SOAHR 2007-046

DEPARTMENT OF ENVIRONMENTAL QUALITY

OFFICE OF GEOLOGICAL SURVEY

MINERAL WELLS

Filed with the Secretary of State on
These rules become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of environmental quality by section 62506 of 1994 PA 451, MCL 324.62506, Section 9 of 1965 PA 380, MCL 16.109, and Executive Reorganization Order No. 1995-16, MCL 324.99903)

R 299.2328, R 299.2332, R 299.2341, R 299.2391, R 299.2437, and R 299.2531 of the Michigan Administrative Code are amended as follows:

R 299.2328 Temporary abandonment status.

Rule 2328. (1) A permittee of a well that has not been used for its permitted purpose during 24 consecutive months or has been tested and found to be unuseable for the purpose for which it was permitted shall plug the well, unless the well is granted temporary abandonment status. Temporary abandonment status shall be allowed only upon written application to, and approval of, the supervisor of mineral wells or authorized representative of the supervisor of mineral wells.

(2) The term of the initial temporary abandonment status shall not be more than 24 months.

(3) Extensions for temporary abandonment status beyond the initial term provided in subrule (2) of this rule may be granted by the supervisor of mineral wells if, after application by the permittee, the supervisor of mineral wells determines that waste shall be prevented. When approving the extensions, the supervisor of mineral wells may require special actions and monitoring by the permittee to ensure the prevention of waste **and may require conformance bonding in addition to that required by R. 299.2332**. ~~The total term of the temporary abandonment status shall not exceed 60 months.~~

R 299.2332 Conformance bond amounts.

Rule 2332. A person who drills or operates a well shall file a conformance bond with the supervisor of mineral wells for the following amounts, as applicable:

(a) Single well conformance bonds shall be filed in the following amounts, as applicable:

(i) **$33,000.00** ~~$30,000.00~~ for a disposal, storage, or brine well.

(ii) For an individual test well:

(A) **$5,500.00** ~~$5,000.00~~ for a depth of 0 to 1,000 feet.

(B) **$11,000.00** ~~$10,000.00~~ for a depth greater than 1,000 feet to 2,000 feet.

(C) **$22,000.00** ~~$20,000.00~~ for a depth greater than 2,000 feet to 4,000 feet.

(D) **$33,000.00** ~~$30,000.00~~ for a depth greater than 4,000 feet.

(iii) For a blanket test well permit, the following:
(A) **$5,500.00** ~~$5,000.00~~ for 1 to 24 wells.
(B) **$11,000.00** ~~$10,000.00~~ for 25 to 49 wells.
(~~c~~**C**) **$16,500.00** ~~$15,000.00~~ for 50 to 75 wells.
(D) **$22,000.00** ~~$20,000.00~~ for 76 to 200 wells.
(b) Blanket conformance bonds may be filed as an alternative to single well conformance bonds. If a blanket conformance bond is used, then the permittee shall provide the supervisor of mineral wells with a list of wells covered by the blanket conformance bond. A maximum of 50 brine, storage, disposal, or individual test wells or any combination of these may be covered by a blanket conformance bond. If the permittee has more than 50 wells in a category, then the additional wells may be covered by single well conformance bonds or additional blanket conformance bonds. Blanket conformance bonds shall be filed in the amount of **$440,000.00** ~~$400,000.00~~.
(c) Blanket test well permits shall not be eligible for blanket conformance bonds.
(d) The permittee is not required to file a blanket conformance bond or bonds in an aggregate amount of more than **$440,000.00** ~~$400,000.00~~. If the aggregate amount of the conformance bonds is **$440,000.00** ~~$400,000.00~~, then the permittee may file 1 blanket conformance bond of **$440,000.00** ~~$400,000.00~~ to cover all of his or her wells.

R 299.2341 Well location; exception.
Rule 2341. (1) Except as provided in subrule 2, the prescribed well location shall comply with all of the following requirements, as applicable:
(a) The well location and associated surface facilities for wells drilled, or constructed, after the effective date of these rules, which is not a replacement or improvement for an existing well or surface facility, shall be located not less than 300 feet from existing recorded fresh water wells and reasonably identifiable fresh water wells utilized for human consumption and existing structures used for public or private occupancy.
(b) Except as provided by 1976 PA 399, MCL 325.1001 et seq., the well separators, storage tanks, and treatment equipment installed or constructed after the effective date of these rules shall be located not less than 2,000 feet from type I and IIa public water supply wells and not less than 800 feet from type IIb and III public water supply wells, as defined in 1976 PA 399, MCL 325.1001 et seq.
(2)~~(c)~~ The supervisor of mineral wells or authorized representative of the supervisor of mineral wells **may** issue~~s~~ a permit for a well where the surface location is closer than 300 feet from all existing recorded fresh water wells and reasonably identifiable fresh water wells utilized for human consumption and existing structures used for public or private occupancy **under either of the following conditions:**
(a) U~~u~~pon presentation to the supervisor of mineral wells of written consent signed by the owner or owners of all existing fresh water wells and reasonably identifiable fresh water wells utilized for human consumption and existing structures used for public or private occupancy.
(b)~~(d)~~ The supervisor of mineral wells determines the well location or location of associated surface facilities will prevent waste, protect environmental values, and not compromise public safety after a hearing conducted under part 13 of these rules.
(3)~~(2)~~ A well shall not be located or drilled to an objective formation which will result in operations incompatible with existing or permitted uses under this part or part 615. An applicant shall demonstrate its operations are not incompatible with those uses.

R 299.2391 Testing before operation of wells.
Rule 2391. (1) Before injecting fluid into a well newly drilled for disposal, storage, **natural** or artificial brine production, or into a previously existing well newly converted for storage, disposal, or artificial

brine production, a permittee shall provide for a demonstration of internal mechanical integrity of the wellhead, casing, tubing, and annular seal assembly if present, utilizing either a pressure test at a surface pressure of not less than 100 psig above the maximum expected operating surface pressure of the well or an equivalent test approved by the supervisor of mineral wells. The test shall be conducted by a qualified person. A satisfactory pressure test shall meet the following requirements:

R 299.2437 Commencement of plugging operations.
Rule 2437. (1) A permittee of a well other than a test well shall begin plugging operations as follows:
(a) Within 90 days after drilling completion if the well has been tested and found to be unuseable for the purpose for which it was permitted.
(b) When the well has not been utilized for its permitted use for more than 24 consecutive months and temporary abandonment status has not been approved. The supervisor of mineral wells may require a permittee to supply proof that a well is being utilized for the purpose for which it was permitted.
(2) A test well shall be plugged within 30 days of drilling completion and completion of all proposed well bore testing unless a different plugging schedule is approved by the supervisor of mineral wells at the time of issuance of a permit to drill and operate.
(3) After receiving a written request showing just cause why the well should not be plugged, the supervisor of mineral wells or authorized representative of the supervisor of mineral wells may grant temporary abandonment status as provided by **R 299.2328**~~R 299.2318~~ or require the well to be plugged.

R 299.2531 Filing of records; determination of fee; payment of fee**; non-payment of fee**
Rule 2531. (1) The supervisor of mineral wells shall require an owner to file a list, on a form prescribed by the supervisor of mineral wells, of all mineral wells owned by that owner which were useable for their permitted purpose or which were not properly plugged as of January first of the current calendar year.
(2) The list required in subrule (1) of this rule shall be filed by January 28 of the current calendar year.
(3) The supervisor of mineral wells shall determine the amount of the mineral well regulatory fee owed by an owner and shall notify the owner by March 1 of the current calendar year. The fee charged for a well shall be as prescribed in the act.
(4) The mineral well regulatory fee shall be due and payable before May 1 of the current calendar year.
(5) For the purposes of this rule a well is considered properly plugged when it has reached final completion.
(6) The supervisor of mineral wells shall consider a well abandoned if the fee has not been paid for 2 consecutive calendar years.

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF GEOLOGICAL SURVEY

The Michigan Department of Environmental Quality (DEQ), Office of Geological Survey, will conduct a public hearing on proposed administrative rules promulgated pursuant to Part 625, Mineral Wells, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); R 299.2328, R 299.2332, R 299.2341, R 299.2391, R 299.2437, R 299.2531. These rules clarify and correct existing rules and update conformance bond amounts to reflect current well plugging costs.

The public hearing will be held on May 29, 2008, at 10:00 a.m., in the H. Dale Brake Conference Room, Atrium South, Constitution Hall, at 525 West Allegan, Lansing, Michigan.

Copies of the proposed rules (SOAHR 2007-046 EQ) can be downloaded from the Internet at: http://www.michigan.gov/deqogs. These rules can also be downloaded from the Internet through the State Office of Administrative Hearings and Rules at http://www.michigan.gov/soahr. Copies of the rules may also be obtained by contacting the Lansing office at:

Office of Geological Survey
Michigan Department of Environmental Quality
P.O. Box 30256
Lansing, Michigan 48909-7756
Phone: 517-241-1552
Fax: 517-241-1595
E-Mail: mauls@michigan.gov

All interested persons are invited to attend and present their views. It is requested that all statements be submitted in writing for the hearing record. Anyone unable to attend may submit comments in writing to the address above. Written comments must be received by 5:00 p.m. on Monday, June 2, 2008.

Persons needing accommodations for effective participation in the meeting should contact the Office of Geological Survey at 517-241-1552 one week in advance to request mobility, visual, hearing, or other assistance.

This notice of public hearing is given in accordance with Sections 41 and 42 of Michigan's Administrative Procedures Act, 1969 PA 306, as amended, being Sections 24.241 and 24.242 of the Michigan Compiled Laws. Administration of the rules is by authority conferred on the Director of the DEQ by Section 62506 of Act 451 and Executive Reorganization Order 1995-16. These rules will become effective immediately after filing with the Secretary of State.

PROPOSED ADMINISTRATIVE RULES

SOAHR 2007-051

DEPARTMENT OF TREASURY

BOARD OF DIRECTORS

MICHIGAN EDUCATION TRUST

Filed with the Secretary of State on _____

These rules become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the board of directors of the Michigan education trust by section 11 of 1986 PA 316, MCL 390.1431).

R 390.1802 of the Michigan Administrative Code is amended as follows:

R 390.1802 Applications; enrollment; denial of authorization to enter into contract.

Rule 2. (1) The board may develop and distribute applications. Applications shall be available from the office of the trust and at other places considered necessary by the executive director. Applications received by the trust shall be date-stamped by the trust as evidence of receipt.

(2) To be complete, an application shall contain all of the information the board determines necessary to properly administer the application and enrollment process. Upon receipt of a completed application, the trust shall determine the enrollment period in which the applicant may be eligible to enter into a contract with the trust for the proposed beneficiary. The trust shall notify the applicant of the enrollment period for which the application was accepted and provide the applicant with the information necessary to enter into a contract with the trust.

(3) The trust shall make a reasonable effort to assure that not more than the number of credit hours necessary to obtain a ~~4~~ **5**-year baccalaureate degree is purchased for a particular beneficiary. To this end, to the extent known by the trust, the trust will not allow, in any enrollment period, the purchase of credit hours which, when added to credit hours previously contracted for on behalf of the beneficiary, will provide the beneficiary with more than the number of credit hours necessary to obtain a ~~4~~ **5** -year baccalaureate degree. If more than 1 applicant has submitted an application for the same proposed beneficiary and all applications submitted or contracts previously entered into total more than the number of credit hours necessary to obtain a ~~4~~ **5** -year baccalaureate degree, the trust shall authorize applicants to enter into contracts for the proposed beneficiary in the order of the trust's receipt of their applications.

(4) In addition to a denial pursuant to ~~the provisions of~~ subrule (3) of this rule, the trust may deny an applicant the right to enter into a contract with the trust for any of the following reasons:

(a) The applicant is not legally qualified to enter into the contract.

(b) Entering into the contract with the applicant violates state or federal securities laws.

(c) The proposed beneficiary is not a qualified beneficiary under the act.

(d) The board determines it would be advisable, for reasons adopted by the board or because it is necessary to protect the actuarial soundness of the trust, to limit the number of contracts entered into by the trust.

(e) The applicant fails to enter into a contract within the enrollment period specified.

(f) Any other reason determined by resolution of the board.

NOTICE OF PUBLIC HEARING

DEPARTMENT OF TREASURY
BUREAU OF STUDENT FINANCIAL SERVICES
MICHIGAN EDUCATION TRUST

NOTICE OF PUBLIC HEARING

ADMINISTRATIVE RULES 2007-051 TY

The Michigan Department of Treasury will hold a public hearing at the following time and place to receive comments by interested persons on proposed changes to rules for the Michigan Education Trust (MET) Program:

Date: Tuesday, May 27, 2008

Time: 1:00 p.m. to 3:00 p.m.

Location: Richard H. Austin Building
430 West Allegan Street
Lansing, Michigan 48922
State Treasurers Board Room, First Floor

The proposed change will update the rules to allow MET beneficiaries to acquire a maximum of five years of contract benefits instead of four years.

These rules are promulgated by authority conferred on the MET Board of Directors by section 11 of 1986 PA 316, MCL 390.1431. These rules will become effective immediately upon filing with the Secretary of State.

Interested parties may also submit written comments to the Michigan Education Trust, P.O. Box 30198, Lansing, Michigan 48909, no later than 5:00 p.m. May 27, 2008. Written comments may also be sent electronically to treasmet@michigan.gov no later than 5:00 p.m. May 27, 2008.

The rules are published on the Michigan Government website at http://www.michigan.gov/orr and in the May 15, 2008 issue of the Michigan Register. Copies of the draft rules may also be obtained by mail or electronic request at the addresses above.

Persons with disabilities requiring additional accommodations for effective participation in the hearing should contact Linda Giles-Gordon, Michigan Education Trust, at (517) 241-4884 or at gilesl@michigan.gov at least one week in advance of the hearing.

PROPOSED ADMINISTRATIVE RULES

SOAHR 2008-006

DEPARTMENT OF COMMUNITY HEALTH

HEALTH POLICY, REGULATION & PROFESSIONS ADMINISTRATION

REQUESTS FOR DECLARATORY RULING

Filed with the Secretary of State on

These rules take effect immediately after filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the department of community health by section 63 of 1969 PA 306, MCL 24.263 and Executive Reorganization Order No. 1996-1, MCL 330.3101)

R 325.1211 of the Michigan Administrative Code is amended as follows:

R 325.1211 Requests for declaratory rulings.

Rule 1. ~~A person requesting a declaratory ruling as to the applicability to an actual state of facts of a statute, rule, or order administered or issued by the department of public health shall do so on a form provided by and available at the department. The form shall be completed in full and shall be filed, either by mail or in person, in the Office of the Director, 3500 North Martin Luther King, Jr. Blvd., Lansing 48913. After receipt of a correctly filed request, the department shall have 30 days within which to notify the initiator of the request by mail whether a declaratory ruling will be issued. If the department's response is affirmative, and prior to the issuance of a declaratory ruling, reasonable time shall be provided to the director for seeking further consultation, or for requesting from concerned sources additional submissions of pertinent information, or to allow for the presentation of evidence or oral argument or both. Exercise of any or all of these alternatives shall be at the discretion of the director~~. **(1) The following provisions set forth the form and procedure for the submission, consideration, and disposition of a request for declaratory ruling in the department of community health, hereinafter referred to as the "department":**

(a) Any interested person, hereinafter referred to as "applicant," may request a declaratory ruling as to the applicability to an actual state of facts of a statute, rule, final order or decision administered, promulgated, or issued by any bureau, office, commission, council, board, or agency, hereinafter referred to as "agency," within the department. A request shall not relate to a hypothetical fact situation.

(b) An applicant shall submit an original and 1 copy of each request on a form similar to figure 1, or in writing, on 8 ½ by 11-inch paper. An applicant shall submit the request by mail or personal delivery to the current office of the director of the agency.

An applicant shall not submit a request by facsimile or electronic means.

(c) The request shall contain all of the following information:

April 22, 2008

(i) Under a section labeled "Statement of Facts," a complete, accurate, and concise statement of the facts or situation upon which the request is based, which shall include all facts known to the applicant that are or may be relevant to a determination of the applicability of a statute, rule, final order, or decision.

(ii) Under a section labeled "Certification," a certification by the applicant as to the existence of the actual state of facts set forth and the submission of all relevant facts known to the applicant.

(iii) Under a section labeled "Laws/Rules/Orders," specific reference to all statutes, rules, final decisions, or orders that are to be considered.

(iv) Under a section labeled "Issues," a concise statement of the issues presented.

(v) Under a section labeled "Analysis and Conclusions," an analysis, legal brief, or memorandum of the issues presented, including reference to any legal authority relied upon, and the applicant's conclusions.

(vi) The applicant's full name, degree or title, if applicable, professional or occupational license number, if applicable, daytime telephone number, mailing address and identification of any legal counsel.

(d) An applicant shall submit 2 copies of all relevant documents as attachments to the request.

(e) Failure to follow the procedure in subdivisions (a) to (d) of this subrule may result in the return of the request for compliance or in denial as specified in subrule (8) of this rule.

(2) Figure 1 reads as follows:

Figure 1 – Declaratory Ruling Form

<table>
<tr><td colspan="3">Department of Community Health Request for Declaratory Ruling</td></tr>
<tr><td colspan="2">Applicant’s full name:</td><td>Applicant’s degree or title (if applicable):</td></tr>
<tr><td colspan="2">Applicant’s mailing address:</td><td>Professional/occupational license no. (if applicable):</td></tr>
<tr><td>Daytime telephone no.:</td><td colspan="2">Name and address of legal counsel (if applicable):</td></tr>
</table>

Statement of facts: (Please provide a complete, accurate and concise statement of the facts or situation upon which the request is based. The statement shall include all facts known to you which are or may be relevant to a determination of the applicability of statute, rule, final order or decision.)
Laws/Rules/Orders: (Please provide references to all statutes, rules, final decisions or orders which are to be considered.)
Issues: (Please provide a concise statement of the issues presented.)
Analysis and Conclusions: (Please provide an analysis, legal brief or memorandum of the issues presented, including reference to any legal authority relied upon, and the applicant's conclusions.)
Certification: I hereby certify the existence of the actual state of facts set forth and the submission of all relevant facts known to me:
Date: Signature:

(3) Before determining whether or not to issue a declaratory ruling, the agency, may receive comments, written or oral arguments, or information from interested persons, legal counsel, or any other source.

(4) Within 60 calendar days of the receipt of the request, the agency shall issue a written notification by regular first-class mail to the applicant and the applicant's legal counsel, if any, stating whether a declaratory ruling will be issued.

(5) If the agency determines that it will issue a declaratory ruling, then it shall do so within 90 calendar days of the notification date specified in subrule (4) of this rule, unless the agency advises the applicant, in writing, of the need for additional time, stating the reasons therefor.

(6) Before the issuance of the declaratory ruling, the agency may do 1 or more of the following:

(a) Request submission by the applicant of any additional information deemed necessary.

(b) Seek consultation, comments, or advice from legal counsel, experts within or outside the agency, local, state, or federal governmental agencies, or any other source.

(c) Request information or comments from other interested parties.

(d) Request oral or written arguments from interested parties.

(e) Hold a public hearing upon proper notice to all interested parties.

(7) The agency may require that a contested case proceeding take place instead of issuing a declaratory ruling.

(8) The agency may deny a request for declaratory ruling if the applicant fails to follow the procedure for submission in this rule, if the statement of facts is incomplete or inaccurate, if the facts or circumstances relate to a changing situation, if the ruling would not be in the public interest or in furtherance of statutory objectives, or for any other stated reason. The agency shall set forth the reason or reasons for denial of the request in its written notification to the applicant.

(9) If a declaratory ruling is issued by the agency, it shall be in writing, mailed by regular first-class mail to the mailing address supplied by the applicant and to the applicant's identified legal counsel, if any, and contain all of the following:

(a) The specific facts upon which it is based.

(b) The legal authority upon which it is based.

(c) The ruling itself.

(d) A statement that the ruling is limited to the specific facts presented and to the statute, rule, final decision, or order identified by the applicant or other statute, rule, final decision, or order identified by the agency.

(e) A statement that the ruling is binding on the agency and the applicant unless it is altered or set aside by any court.

(f) A statement that the agency may not retroactively change the ruling, but may prospectively do so in its discretion.

(g) A statement that the ruling is subject to judicial review in the same manner as an agency final decision or order in a contested case.

(10) This rule does not prohibit or restrict any interested person from informally discussing any actual or proposed activity with any agency. Informal discussions are not subject to the rule.

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING

Requests for Declaratory Ruling

The Department of Community Health will hold a public hearing on June 9, 2008, at 9:15 a.m. at the Department of Community Health, Department of Community Health, 201 Townsend, 1st Floor, Conference Center Rooms B & C, Lansing, Michigan.

The public hearing is being held to receive comments from interested persons on amendments to the Declaratory Ruling Administrative Rules. The proposed rule will amend the department's current administrative rule for the declaratory ruling process. A Declaratory Ruling means a decision, ruling or determination concerning the applicability to an actual statement or facts of a statute administered by the department or of a rule or order of the department. Requests for declaratory rulings must be submitted in writing to the director.

These rules are being promulgated under the authority of sections section 63 of 1969 PA 306, MCL 24.263 and Executive Reorganization Order No. 1996-1, MCL 330.3101. The rules will take effect immediately upon filing with the Secretary of State, unless specified otherwise in the rules.

Hearing comments may be presented in person, with written comments submitted at the time of presentation. Written comments also will be accepted until Friday, June 6, 2008 at 5:00 p.m. at the following address or E-mail address. Address communications to:

Department of Community Health
Office of Legal Affairs
201 Townsend
Lansing, MI 48913
Attention: Mary Greco, Legal Affairs Specialist
E-mail address: grecom@michigan.gov

A copy of the proposed rules may be obtained by contacting the Department at the address noted above. Electronic copies also may be obtained at http://www.michigan.gov/orr.

All hearings are conducted in compliance with the 1990 Americans with Disabilities Act. Hearings are held in buildings that accommodate mobility-impaired individuals and accessible parking is available. A disabled individual who requires accommodations for effective participation in a hearing should call Bonnie Curtis at (517) 335-0038 to make the necessary arrangements. To ensure availability of the accommodation, please call at least 1 week in advance.

Date: April 22, 2008 SOAHR # 2008-006-CH

OTHER OFFICIAL INFORMATION

MCL 24.208 states in part:

Sec. 8. (1) The office of regulatory reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:

* * *

(i) Other official information considered necessary or appropriate by the office of regulatory reform.

OTHER OFFICIAL INFORMATION

DEPARTMENT OF LABOR AND ECONOMIC GROWTH
OFFICE OF FINANCIAL AND INSURANCE REGULATION

ELECTRONIC RATE AND FORM FILING
AND
AMENDMENT OF 97-010-M EXEMPTION ORDER

NOTICE OF PUBLIC HEARING
Thursday, May 29, 2008
Michigan Library and Historical Center
702 West Kalamazoo Street
Lansing, MI 48915
Forum, Ground Floor – 9:00 a.m.

Ken Ross, Commissioner of the Office of Financial and Insurance Regulation (OFIR), Department of Labor and Economic Growth, will hold a public hearing on Thursday, May 29, 2008, starting at 9 a.m., in the Forum on the ground floor of the Michigan Library and Historical Center, 702 West Kalamazoo Street, Lansing, MI 48915, to receive written and oral comments that will assist him in determining whether to require insurers to file policy forms, rules, and rates electronically via the System for Electronic Rate and Form Filing (SERFF) and also whether to amend or modify Exemption Order 97-010-M to require insurers to submit additional policy forms to OFIR for prior approval before they are utilized in the market.

With regard to hearing issue number one, insurers currently have the choice either to mail required rule, rate, and policy form filings in paper format to OFIR or to sign up voluntarily with SERFF and submit all documents electronically to OFIR via SERFF. SERFF was developed by the National Association of Insurance Commissioners (NAIC) staff as a gateway for insurers to submit electronic filings to each state in a uniform manner while being able to meet necessary state regulations. States can sign up and receive service free of charge, and at this point (10 years after formation) nearly every state accepts SERFF filings. Insurers can also sign up, and the small startup and small transaction fees for each filing are likely to be less costly than making traditional paper filings.

On behalf of the member states, NAIC staff maintain SERFF filings and state communication and dispositions of those filings on data servers. SERFF allows each state to analyze and process electronic filings for approval/acceptability more efficiently than paper filings can be analyzed and processed. SERFF filings take up less physical space and allow analysts to work more efficiently by locating keywords and phrases in filed documents and to communicate filing disposition to insurers through the SERFF system. States can also use SERFF as a logging/tracking system to provide statistics that measure the types of filings and actions taken on filings. More in-depth information can be found at http://www.serff.org/SERFF-Background.htm

With regard to hearing issue number two, Order No. 97-010-M exempted insurers from filing policy forms for most types of insurance. Bulletin 97-03 explained the particulars of the Exemption Order.

The Order and Bulletin are both available with this Public Hearing Notice at the OFIR website, www.michigan.gov/ofir

The Commissioner is seeking advice, insight, and input from consumers who purchase insurance products in Michigan, insurers who write insurance products in Michigan, from any public interest group, and from any independent person or source with information pertinent to these two hearing subjects.

The Commissioner will accept oral and written comments at the public hearing site until the close of the public hearing on May 29, 2008 and will accept written comments submitted electronically to Randy Parlor at parlorr@michigan.gov or faxed to 517-373-0549 by 5 p.m. Eastern Daylight Time (EDT) on May 30, 2008. Any comments that include statistics should also supply the source of the statistics.

Limited resources preclude the Commissioner from taking a position simply to review all policy forms, and the comments submitted should be based on the assumption that the Commissioner must prioritize and identify only those forms most in need of review to achieve the most positive consumer impact. Thus, the Commissioner is especially interested in receiving testimony concerning:

1) Pros and cons of mandating electronic filing of policy forms, rules, and rates via SERFF.

2) Which types of policy forms the Commissioner should continue to exempt from filing requirements under MCL 500.2236(8)(d) and why.

3) Which types of policy forms the Commissioner should not exempt from filing requirements under MCL 500.2236(8)(d) and why.

4) How the Commissioner should handle currently exempt policy forms in use if he amends the 1997 Exemption Order.

5) Policy form and/or rate provisions that merit particular attention when analyzing them for acceptability under Michigan law.

6) States with best practices in the area of policy form filings.

The hearing site is accessible, including handicapped parking. Individuals attending the meeting are requested to refrain from using heavily scented personal care products in order to enhance accessibility for everyone. People with disabilities requiring additional accommodations, such as information in alternative formats in order to participate in the hearing, should contact Randy Parlor toll free at (877)999-6442 or at (517)335-1712 as soon as possible, preferably 7 working days before the hearing.

ENROLLED SENATE AND HOUSE BILLS SIGNED INTO LAW OR VETOED (2008 SESSION)

Mich. Const. Art. IV, §33 provides: "Every bill passed by the legislature shall be presented to the governor before it becomes law, and the governor shall have 14 days measured in hours and minutes from the time of presentation in which to consider it. If he approves, he shall within that time sign and file it with the secretary of state and it shall become law . . . If he does not approve, and the legislature has within that time finally adjourned the session at which the bill was passed, it shall not become law. If he disapproves . . . he shall return it within such 14-day period with his objections, to the house in which it originated."

Mich. Const. Art. IV, §27, further provides: "No act shall take effect until the expiration of 90 days from the end of the session at which it was passed, but the legislature may give immediate effect to acts by a two-thirds vote of the members elected to and serving in each house."

MCL 24.208 states in part:

"Sec. 8. (1) The State Office of Administrative Hearings and Rules shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:

* * *

(b) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills signed into law by the governor during the calendar year and the corresponding public act numbers.

(c) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills vetoed by the governor during the calendar year."

ENROLLED SENATE AND HOUSE BILLS SIGNED INTO LAW OR VETOED (2008 SESSION)

Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E. * Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
1		730	Yes	1/11	1/11	1/11/08	Education; other; references to "handicapped person" in school code; revise to "student with a disability", allow for transfer of public school academy assets and pupils to another public school, and revise effective date for school district consolidations. **(Sen. J. Gleason)**
2		545	Yes	1/16	1/16	1/16/08	Environmental protection; water pollution; storm water permits; provide waiver of fees for certain municipalities. **(Sen. M. Jansen)**
3	5123		Yes	2/7	2/7	2/7/08	Economic development; commercial redevelopment; obsolete requirement; modify. **(Rep. S. Bieda)**
4	5101		Yes	2/7	2/7	2/7/08	Economic development; neighborhood enterprise zones; eligibility; expand to include new facilities. **(Rep. B. Farrah)**
5		111	Yes	2/7	2/7	2/7/08	Mobile homes; other; penalties for park owners who fail to remit assessment tax; provide for. **(Sen. R. Jelinek)**

* - I.E. means Legislature voted to give the Act immediate effect.
** - Act takes effect on the 91st day after *sine die* adjournment of the Legislature.
*** - See Act for applicable effective date.
+ - Line item veto
# - Tie bar

Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E. * Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
6		577	Yes	2/12	2/12	8/10/08	Construction; housing; certain requirements for residential owner-builders to comply with prior to sale of structure; clarify. **(Sen. J. Gilbert)**
7	4505		Yes	2/15	2/15	2/15/08	Traffic control; driver license; issuance of driver license to individual not lawfully in the United States; prohibit, and revise procedures for issuance of license. **(Rep. C. Ward)**
8		092	Yes	2/20	2/20	2/20/08	Environmental protection; permits; liquid industrial waste; exempt fats used to produce fuels, and make technical revisions. **(Sen. R. Basham)**
9		123	Yes	2/29	2/29	2/29/08	Businesses; nonprofit corporations; use of electronic communications; allow for nonprofit corporations. **(Sen. A. Sanborn)**
10		565	Yes	2/29	2/29	6/1/08	Crimes; larceny; shipping containers; include in crime of breaking and entering. **(Sen. J. Gilbert)**
11	4684		Yes	2/29	2/29	2/29/08	Liquor; other; serving alcohol to an individual who is intoxicated; clarify. **(Rep. F. Accavitti)**
12	5032		Yes	2/29	2/29	2/29/08	Land use; zoning and growth management; zoning enabling act; make corrective and technical revisions. **(Rep. B. Byrum)**

* - I.E. means Legislature voted to give the Act immediate effect.
** - Act takes effect on the 91st day after *sine die* adjournment of the Legislature.
*** - See Act for applicable effective date.
+ - Line item veto
# - Tie bar

Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E. * Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
13	5034		Yes	2/29	2/29	2/29/08 #	Agriculture; fertilizer; "agricultural use"; define. **(Rep. J. Sheltrown)**
14	5035		Yes	2/29	2/29	2/29/08	Agriculture; fertilizer; approval for ordinance regarding use of agricultural fertilizer; require by Michigan commission of agriculture. **(Rep. J. Mayes)**
15		097	Yes	2/29	2/29	6/1/08	Children; child care; requirement for licensees and registrants to notify parents of complaints of rule violations and investigations; establish. **(Sen. B. Hardiman)**
16		155	Yes	2/29	2/29	6/1/08 #	Criminal procedure; sentencing guidelines; crime of false report initiating special investigation; enact. **(Sen. C. Brown)**
17		630	Yes	2/29	2/29	2/29/08	Highways; name; certain portion of M-62; designate as the "Veteran's Memorial Highway". **(Sen. R. Jelinek)**
18		682	Yes	2/29	2/29	2/29/08	Agriculture; pesticides; distributors of agricultural pesticides; require to be licensed, and require out-of-state pesticide dealers to maintain a registered office. **(Sen. M. McManus)**

* - I.E. means Legislature voted to give the Act immediate effect.
** - Act takes effect on the 91st day after *sine die* adjournment of the Legislature.
*** - See Act for applicable effective date.
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# - Tie bar

Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E. * Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
19	5021		Yes	3/6	3/7	3/7/08	Vehicles; equipment; certain visual displays for use in motor vehicles; revise requirements. **(Rep. K. Angerer)**
20	4650		Yes	3/6	3/7	3/7/08	Civil procedure; other; uniform foreign-country money judgments recognition act; create. **(Rep. P. Condino)**
21	5384		Yes	3/6	3/7	3/7/08	Energy; other; energy employment act; revise. **(Rep. M. Nofs)**
22	4220		Yes	3/12	3/12	3/12/08	Public employees and officers; ethics; school board member volunteer service in school district; allow under certain conditions. **(Rep. J. Espinoza)**
23	5535		Yes	3/13	3/13	3/13/08	Traffic control; other; enhanced driver license and enhanced official state personal identification card act; enact. **(Rep. S. Tobocman)**
24	5536		Yes	3/13	3/13	3/13/08 #	Criminal procedure; sentencing guidelines; sentencing guideline for crime of fraudulent certification or statement in applying for enhanced driver license or enhanced official state identification card; establish. **(Rep. E. Clemente)**

* - I.E. means Legislature voted to give the Act immediate effect.
** - Act takes effect on the 91st day after *sine die* adjournment of the Legislature.
*** - See Act for applicable effective date.
+ - Line item veto
# - Tie bar

Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E.* Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
25	5582		Yes	3/13	3/13	5/12/08 #	Aeronautics; other; aviation fuel used for certain purposes; exempt from taxation. **(Rep. S. Bieda)**
26	5583		Yes	3/13	3/13	5/12/08 #	Aeronautics; other; certain aviation fuel; exempt from motor fuel tax. **(Rep. T. Schuitmaker)**
27		530	Yes	3/13	3/13	3/13/08	Recreation; outdoor activities; noise emission from snowmobiles; provide standard. **(Sen. J. Allen)**
28		750	Yes	3/13	3/13	3/13/08	Veterans; employment; employment preference for honorably discharged veterans; modify residency requirement. **(Sen. R. Basham)**
29		1061	Yes	3/13	3/13	3/13/08	Insurance; other; captive insurance companies; regulate. **(Sen. A. Sanborn)**
30		1062	Yes	3/13	3/13	3/13/08 #	Business tax; other; taxation of captive insurance companies; exclude. **(Sen. A. Sanborn)**
31		654	Yes	3/13	3/13	3/13/08 #	State; identification cards; class 2 identification card; provide for. **(Sen. A. Sanborn)**
32		966	Yes	3/13	3/13	3/13/08	State; identification cards; personal identification cards; revise requirements for applications. **(Sen. C. Brown)**
33		206	Yes	3/13	3/13	9/1/08	Land use; planning; planning law consolidation; provide for. **(Sen. P. Birkholz)**

* - I.E. means Legislature voted to give the Act immediate effect.
** - Act takes effect on the 91st day after *sine die* adjournment of the Legislature.
*** - See Act for applicable effective date.
+ - Line item veto
# - Tie bar

Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E.* Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
34		523	Yes	3/13	3/13	3/13/08	Property; conveyances; transfer of certain state owned property in Lapeer county; provide for. **(Sen. J. Gilbert)**
35		1076	Yes	3/13	3/14	3/14/08	Economic development; downtown development authorities; issuance of qualified refunding obligations; revise. **(Sen. A. Cropsey)**
36		712	Yes	3/13	3/17	3/17/08 #	Traffic control; driver license; amendments regarding revised uniform anatomical gift act; provide for in vehicle code. **(Sen. H. Clarke)**
37		713	Yes	3/13	3/17	3/17/08 #	Criminal procedure; sentencing guidelines; sentencing guidelines for certain violations of the revised uniform anatomical gift act; enact. **(Sen. J. Allen)**
38		714	Yes	3/13	3/17	3/17/08 #	Health; anatomical gifts; amendments regarding revised uniform anatomical gift act; provide for in medical examiner law. **(Sen. R. Kahn)**
39	4940		Yes	3/13	3/17	5/1/08 #	Health; anatomical gifts; revised uniform anatomical gift law; create. **(Rep. P. Condino)**
40	4941		Yes	3/13	3/17	3/17/08 #	State; identification cards; amendments regarding revised uniform anatomical gift law; provide for in personal identification card law. **(Rep. K. Angerer)**

* - I.E. means Legislature voted to give the Act immediate effect.
** - Act takes effect on the 91st day after *sine die* adjournment of the Legislature.
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# - Tie bar

Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E.* Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
41	4945		Yes	3/13	3/17	3/17/08 #	Health; anatomical gifts; amendments regarding revised uniform anatomical gift law; provide for in estates and protected individuals code. **(Rep. B. Calley)**
42	5184		Yes	3/20	3/20	3/20/08	Property; conveyances; certain property previously conveyed by the state to the city of Lansing; receive from the city of Lansing and reconvey with altered usage restrictions. **(Rep. J. Bauer)**
43		082	Yes	3/27	3/27	7/1/08	Vehicles; equipment; use of child safety restraint system or booster seat for certain children; require. **(Sen. M. McManus)**
44		364	Yes	3/27	3/27	3/27/08	Economic development; commercial redevelopment; corridor improvement authority act; modify. **(Sen. G. Jacobs)**
45	4763		Yes	3/27	3/27	3/27/08	Health; poisons; painting of old houses by volunteer neighborhood groups; exempt from lead-based paint activity certification requirement of public health code. **(Rep. J. Mayes)**
46		273	Yes	3/27	3/27	3/27/08	Children; protection; procedure regarding follow-up to report of child abuse or neglect that involves a licensed or registered facility or home; clarify. **(Sen. B. Hardiman)**

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+ - Line item veto
# - Tie bar

Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E.* Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
47		667	Yes	3/27	3/27	3/27/08	Family law; marriage and divorce; persons authorized to solemnize marriage; allow county clerk in a county other than county in which clerk serves. **(Sen. C. Brown)**
48		815	Yes	3/27	3/27	1/1/08	Communications; telecommunications; ability of CMRS supplier or reseller to collect service charge; clarify. **(Sen. B. Patterson)**
49		1135	Yes	3/27	3/27	3/27/08	Local government; authorities; zoological authority; permit any county to create. **(Sen. G. Jacobs)**
50	5319		Yes	3/27	3/28	3/28/08	Local government; other; penalties for noncompliance with order; expand to include a blight violation under certain circumstances. **(Rep. S. Jackson)**
51	4868		Yes	3/27	3/28	3/28/08	Cities; home rule; administrative hearings bureau authority to adjudicate blight violations; expand to include right-of-way signage violations and dangerous building violations, and to provide other technical amendments. **(Rep. C. Young)**
52	5665		Yes	3/27	3/28	3/28/08	Communications; telecommunications; sunset; eliminate. **(Rep. F. Accavitti)**

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+ - Line item veto
# - Tie bar

Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E.* Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
53	5443		Yes	4/2	4/3	4/3/08 #	Housing; housing development authority; waiver for bonds issued to refinance single family homes; provide for. **(Rep. S. Tobocman)**
54		951	Yes	4/2	4/3	4/3/08 #	Housing; housing development authority; financing for purchase of certain existing single-family residences; expand to include refinancing. **(Sen. S. Thomas)**
55		950	Yes	4/2	4/3	4/3/08 #	Housing; housing development authority; recapture tax fund; establish. **(Sen. H. Clarke)**
56	5446		Yes	4/2	4/3	4/3/08 #	Housing; housing development authority; limitation on aggregate principal amount of notes and bonds; extend issuance date. **(Rep. B. Cook Scott)**
57		948	Yes	4/2	4/3	4/3/08 #	Housing; housing development authority; refinancing program; allow housing development authority to offer. **(Sen. T. Hunter)**
58		1133	Yes	4/2	4/3	4/3/08 #	Housing; housing development authority; income qualifier for financing loan; increase. **(Sen. R. Richardville)**
59	5287		Yes	4/2	4/3	4/3/08 #	Financial institutions; mortgage brokers and lenders; regulation and registration of mortgage loan officers; revise compensation provisions. **(Rep. S. Jackson)**

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Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E.* Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
60	5288		Yes	4/2	4/3	4/3/08 #	Financial institutions; mortgage brokers and lenders; regulation and registration of mortgage loan officers; establish registration application process. **(Rep. A. Coulouris)**
61	5289		Yes	4/2	4/3	4/3/08 #	Financial institutions; mortgage brokers and lenders; regulation and registration of mortgage loan officers; require certain notices to OFIS. **(Rep. E. Clemente)**
62	5290		Yes	4/2	4/3	4/3/08 #	Financial institutions; mortgage brokers and lenders; regulation and registration of mortgage loan officers; clarify authority of OFIS commissioner and revise administrative process concerning revocation or suspension of registration. **(Rep. D. Robertson)**
63	5291		Yes	4/2	4/3	4/3/08 #	Financial institutions; mortgage brokers and lenders; regulation and registration of mortgage loan officers; revise provisions applicable to investigations by OFIS. **(Rep. D. Booher)**
64		826	Yes	4/2	4/3	4/3/08 #	Financial institutions; mortgage brokers and lenders; regulation of and registration of mortgage loan officers; create mortgage industry advisory board. **(Sen. R. Richardville)**

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Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E.* Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
65		827	Yes	4/2	4/3	4/3/08 #	Criminal procedure; sentencing guidelines; violation of mortgage company act or secondary mortgage loan act; reflect reduction of penalty to misdemeanor. **(Sen. R. Richardville)**
66		828	Yes	4/2	4/3	4/3/08 #	Financial institutions; mortgage brokers and lenders; regulation and registration of mortgage loan officers; revise title and definition section of mortgage broker act. **(Sen. H. Clarke)**
67		829	Yes	4/2	4/3	4/3/08 #	Financial institutions; mortgage brokers and lenders; regulation and registration of mortgage loan officers; establish registration renewal process. **(Sen. T. Stamas)**
68		830	Yes	4/2	4/3	4/3/08 #	Financial institutions; mortgage brokers and lenders; regulation and registration of mortgage loan officers; establish fees and allocate fee revenue to MBLSLA fund. **(Sen. T. Hunter)**
69		831	Yes	4/2	4/3	4/3/08 #	Financial institutions; mortgage brokers and lenders; regulation and registration of mortgage loan officers; establish effect of surrender, revocation, or suspension of registration. **(Sen. D. Olshove)**

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Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E. * Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
70		832	Yes	4/2	4/3	4/3/08 #	Financial institutions; mortgage brokers and lenders; regulation and registration of mortgage loan officers; prohibit certain activities by loan officers. **(Sen. N. Cassis)**
71		833	Yes	4/2	4/3	4/3/08 #	Financial institutions; mortgage brokers and lenders; regulation and registration of mortgage loan officers; prohibit acting without registration and establish penalties and remedies for violating act. **(Sen. A. Sanborn)**
72	4596		Yes	4/2	4/3	1/1/09	Financial institutions; mortgage brokers and lenders; fees, application dates, and license or registration expiration dates; revise, and establish MBLSLA fund. **(Rep. S. Jackson)**
73	5861		Yes	4/7	4/7	4/7/08	Transportation; funds; funding for jobs today program; extend sunset. **(Rep. M. Valentine)**
74		1176	Yes	4/7	4/8	4/8/08	Business tax; other; credit for certain production companies for qualified job training expenditures; provide for. **(Sen. P. Birkholz)**
75		1177	Yes	4/7	4/8	5/4/08	State financing and management; funds; strategic fund incentives for film production industry; provide for. **(Sen. J. Allen)**

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Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E.* Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
76		1178	Yes	4/7	4/8	4/8/08	State financing and management; other; provision to allow cost-free use of state property for film industry productions; provide for. **(Sen. T. Hunter)**
77	5841		Yes	4/7	4/8	4/8/08	Business tax; other; credit for certain production companies for production expenditures; provide for. **(Rep. A. Meisner)**
78	5842		Yes	4/7	4/8	4/8/08	Sales tax; exemptions; incentives to film production industry; provide for. **(Rep. C. Young)**
79	5844		Yes	4/7	4/8	4/8/08	Income tax; credit; credit for certain eligible production companies; provide for. **(Rep. B. Johnson)**
80	5848		Yes	4/7	4/8	4/8/08	State financing and management; funds; Michigan strategic fund loans to qualified film industry productions; provide for. **(Rep. R. Jones)**
81	5852		Yes	4/7	4/8	4/8/08	Military affairs; other; provision to allow cost-free use of state property for film industry productions; provide for. **(Rep. D. Hildenbrand)**
82	5853		Yes	4/7	4/8	4/8/08	Natural resources; other; authority of DNR director to authorize free use of DNR controlled property for film production; expressly recognize in statute. **(Rep. K. Law)**

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Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E.* Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
83	5854		Yes	4/7	4/8	4/8/08	Transportation; other; provision to allow cost-free use of state property for film industry productions; provide for. **(Rep. E. Clemente)**
84	5855		Yes	4/7	4/8	4/8/08	Local government; other; local government filming location access act; create. **(Rep. F. Miller)**
85		1183	Yes	4/7	4/8	5/4/08 #	History and arts; other; powers, duties, and functions of the Michigan film office and Michigan film advisory commission; modify. **(Sen. T. Stamas)**
86		1173	Yes	4/7	4/8	4/8/08	Business tax; other; credit for certain qualified film and digital media infrastructure projects; provide for. **(Sen. H. Clarke)**
87		1174	Yes	4/7	4/8	4/8/08	Economic development; Michigan economic growth authority; tax incentives for qualified companies in the film production industry; provide for. **(Sen. J. Gilbert)**
88	5858		Yes	4/8	4/8	4/8/08	Business tax; other; credit for certain taxpayers for creating an anchor zone of certain businesses; provide for. **(Rep. E. Clemente)**
89	5511		Yes	4/8	4/8	4/8/08	Business tax; other; brownfield credit revisions; provide for. **(Rep. E. Clemente)**
90	4416		Yes	4/8	4/8	7/1/08 #	Occupations; real estate; real estate broker responsibilities under exclusive service provision agreements; clarify. **(Rep. T. Schuitmaker)**

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Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E.* Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
91	4417		Yes	4/8	4/8	7/1/08 #	Occupations; real estate; real estate broker responsibilities under an exclusive service provision agreement; provide as part of agency disclosure. **(Rep. B. Farrah)**
92		1115	Yes	4/8	4/8	4/8/08	Business tax; other; a new Michigan economic growth authority credit for certain anchor companies; create. **(Sen. J. Allen)**
93		351	Yes	4/8	4/8	4/8/08	Counties; ordinances; billboard zoning ordinances; allow counties to establish under certain circumstances. **(Sen. J. Gilbert)**
94		047	Yes	4/8	4/8	4/8/08	Economic development; tax increment financing; water improvement tax increment financing authority; create. **(Sen. J. Allen)**
95		105	Yes	4/8	4/8	4/8/08	Courts; state court administration; authority for magistrates to oversee arraignments; allow. **(Sen. V. Garcia)**
96	4215		Yes	4/8	4/8	4/8/08	Property tax; principal residence exemption; additional principal residence exemption on 2 properties up to 3 years; allow under certain circumstances. **(Rep. E. Gaffney)**
97		1192	Yes	4/15	4/15	4/15/08	Business tax; other; film rental and royalty payments made by theater owner included as purchases from other firms; revise effective date. **(Sen. J. Barcia)**

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Public Act No.	Enrolled House Bill	Enrolled Senate Bill	I.E. * Yes / No	Governor Approved Date	Filed Date	Effective Date	Subject
98		1223	Yes	4/18	4/18	4/18/08	State financing and management; funds; Michigan promotion program in the Michigan strategic fund; create. **(Sen. J. Allen)**
99		1224	Yes	4/18	4/18	4/18/08	State financing and management; funds; deposit and disposition of additional tobacco bond proceeds; provide for. **(Sen. T. Stamas)**
100	5865		Yes	4/18	4/18	4/18/08	State financing and management; funds; Michigan promotion program to promote tourism; create, and provide funding. **(Rep. K. Ebli)**
101	5866		Yes	4/18	4/18	4/18/08	Taxation; tobacco; refunding, refinancing, and sale of residual interest; provide for in Michigan tobacco settlement finance authority act. **(Rep. T. Brown)**
102	5867		Yes	4/18	4/18	4/18/08	State financing and management; funds; deposit and disposition of additional tobacco bond proceeds; provide for. **(Rep. K. Horn)**
103		1157	Yes	4/18	4/18	4/18/08	Higher education; other; use of Michigan guaranty agency operating funds for state competitive scholarships; authorize. **(Sen. M. Switalski)**

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MICHIGAN ADMINISTRATIVE CODE TABLE
(2008 SESSION)

MCL 24.208 states in part:

"Sec. 8. (1) The State Office of Administrative Hearings and Rules shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:

* * *

(i) Other official information considered necessary or appropriate by the State Office of Administrative Hearings and Rules."

The following table cites administrative rules promulgated during the year 2000, and indicates the effect of these rules on the Michigan Administrative Code (1979 ed.).

MICHIGAN ADMINISTRATIVE CODE TABLE
(2008 RULE FILINGS)

R Number	Action	2008 MR Issue	R Number	Action	2008 MR Issue	R Number	Action	2008 MR Issue
28.4301	R	8	28.14313	A	8	29.7038	A	8
28.4302	R	8	28.14314	A	8	29.7039	A	8
28.4303	R	8	28.14315	A	8	29.7040	A	8
28.4304	R	8	28.14316	A	8	29.7041	A	8
28.4305	R	8	28.14317	A	8	29.7042	A	8
28.4306	R	8	28.14318	A	8	29.7043	A	8
28.4307	R	8	28.14319	A	8	29.7044	A	8
28.4308	R	8	28.14320	A	8	29.7045	A	8
28.4309	R	8	28.14321	A	8	29.7046	A	8
28.4310	R	8	29.7001	A	8	29.7047	A	8
28.4311	R	8	29.7002	A	8	29.7048	A	8
28.4351	R	8	29.7010	A	8	29.7049	A	8
28.4352	R	8	29.7011	A	8	29.7050	A	8
28.4353	R	8	29.7012	A	8	29.7051	A	8
28.4354	R	8	29.7013	A	8	29.7052	A	8
28.4355	R	8	29.7014	A	8	29.7053	A	8
28.4356	R	8	29.7015	A	8	29.7054	A	8
28.4357	R	8	29.7016	A	8	29.7055	A	8
28.4358	R	8	29.7017	A	8	29.7056	A	8
28.4359	R	8	29.7018	A	8	29.7057	A	8
28.4360	R	8	29.7019	A	8	29.7058	A	8
28.4361	R	8	29.7020	A	8	29.7059	A	8
28.4362	R	8	29.7021	A	8	29.7060	A	8
28.4363	R	8	29.7022	A	8	29.7061	A	8
28.4364	R	8	29.7023	A	8	29.7062	A	8
28.4365	R	8	29.7024	A	8	29.7063	A	8
28.4366	R	8	29.7025	A	8	29.7064	A	8
28.14301	A	8	29.7026	A	8	29.7065	A	8
28.14302	A	8	29.7027	A	8	29.7066	A	8
28.14303	A	8	29.7028	A	8	29.7067	A	8
28.14304	A	8	29.7029	A	8	29.7068	A	8
28.14305	A	8	29.7030	A	8	29.7069	A	8
28.14306	A	8	29.7031	A	8	29.7070	A	8
28.14307	A	8	29.7032	A	8	29.7071	A	8
28.14308	A	8	29.7033	A	8	29.7072	A	8
28.14309	A	8	29.7034	A	8	29.7073	A	8
28.14310	A	8	29.7035	A	8	29.7074	A	8
28.14311	A	8	29.7036	A	8	29.7075	A	8
28.14312	A	8	29.7037	A	8	29.7076	A	8

(***** Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

R Number	Action	2008 MR Issue	R Number	Action	2008 MR Issue	R Number	Action	2008 MR Issue
29.7077	A	8	29.7116	A	8	38.38	A	8
29.7078	A	8	29.7117	A	8	38.39	A	8
29.7079	A	8	29.7118	A	8	38.40	A	8
29.7080	A	8	29.7119	A	8	38.41	A	8
29.7081	A	8	29.7120	A	8	38.42	A	8
29.7082	A	8	29.7121	A	8	38.43	A	8
29.7083	A	8	29.7122	A	8	38.44	A	8
29.7084	A	8	29.7123	A	8	38.45	A	8
29.7085	A	8	29.7124	A	8	38.46	A	8
29.7086	A	8	29.7125	A	8	38.47	A	8
29.7087	A	8	29.7126	A	8	38.48	A	8
29.7088	A	8	29.7127	A	8	38.49	A	8
29.7089	A	8	38.1	R	8	38.50	A	8
29.7090	A	8	38.2	R	8	38.51	A	8
29.7091	A	8	38.3	R	8	38.71	A	8
29.7092	A	8	38.4	R	8	38.72	A	8
29.7093	A	8	38.5	R	8	38.73	A	8
29.7094	A	8	38.6	R	8	38.74	A	8
29.7095	A	8	38.7	R	8	38.75	A	8
29.7096	A	8	38.8	R	8	38.76	A	8
29.7097	A	8	38.11	R	8	38.77	A	8
29.7098	A	8	38.12	R	8	38.78	A	8
29.7099	A	8	38.21	A	8	38.79	A	8
29.7100	A	8	38.22	A	8	38.80	A	8
29.7101	A	8	38.23	A	8	38.81	A	8
29.7102	A	8	38.24	A	8	38.82	A	8
29.7103	A	8	38.25	A	8	38.83	A	8
29.7104	A	8	38.26	A	8	38.84	A	8
29.7105	A	8	38.27	A	8	38.85	A	8
29.7106	A	8	38.28	A	8	38.86	A	8
29.7107	A	8	38.29	A	8	257.1603	*	2
29.7108	A	8	38.30	A	8	285.637.1	*	4
29.7109	A	8	38.31	A	8	285.637.2	*	4
29.7110	A	8	38.32	A	8	285.637.3	*	4
29.7111	A	8	38.33	A	8	285.637.4	*	4
29.7112	A	8	38.34	A	8	285.637.5	*	4
29.7113	A	8	38.35	A	8	285.637.6	*	4
29.7114	A	8	38.36	A	8	285.637.7	*	4
29.7115	A	8	38.37	A	8	285.637.8	*	4

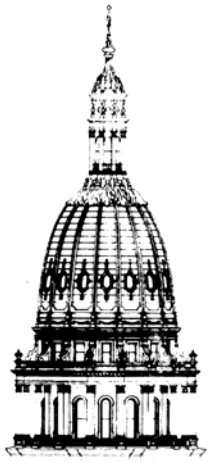
(***** Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

R Number	Action	2008 MR Issue	R Number	Action	2008 MR Issue	R Number	Action	2008 MR Issue
285.637.9	*	4	299.9503	*	5	336.1407	A	2
285.637.10	*	4	299.9519	*	5	336.1420	A	2
285.637.11	*	4	299.9521	*	5	339.16001	*	4
285.637.12	*	4	299.9605	*	5	339.16003	*	4
285.637.13	*	4	299.9607	*	5	339.16021	*	4
285.637.14	*	4	299.9608	*	5	339.16025	*	4
285.637.15	*	4	299.9609	*	5	339.16026	A	4
285.637.17	*	4	299.961	*	5	408.30401	*	6
299.9101	*	5	299.9612	*	5	408.30401a	A	6
299.9102	*	5	299.9613	*	5	408.30404	*	6
299.9104	*	5	299.9615	*	5	408.30405	*	6
299.9105	*	5	299.9623	*	5	408.30408	*	6
299.9203	*	5	299.9629	*	5	408.30410	*	6
299.9204	*	5	299.964	*	5	408.30411	*	6
299.9207	*	5	299.9705	*	5	408.30412	*	6
299.9212	*	5	299.9710	*	5	408.30414	*	6
299.9222	*	5	299.9808	*	5	408.30415a	*	6
299.9224	*	5	299.11001	*	5	408.30417	R	6
299.9225	*	5	299.11002	*	5	408.30418	*	6
299.9226	*	5	299.11003	*	5	408.30421	*	6
299.9227	*	5	299.11004	*	5	408.30427	*	6
299.9228	*	5	299.11005	*	5	408.30429	*	6
299.9231	A	5	299.11009	A	5	408.30432	*	6
299.9304	*	5	322.73	A	5	408.30437	*	6
299.9305	*	5	336.1102	*	6	408.30442	A	6
299.9306	*	5	336.1103	*	6	408.30444	R	6
299.9307	*	5	336.1104	*	6	408.30445	*	6
299.9308	*	5	336.1105	*	6	408.30446	*	6
299.9309	*	5	336.1109	*	6	408.30447	*	6
299.9310	*	5	336.1112	*	6	408.30448	*	6
299.9401	*	5	336.1113	*	6	408.30449	*	6
299.9404	*	5	336.1114	*	6	408.30451c	*	6
299.9405	*	5	336.1122	*	6	408.30457	*	6
299.9409	*	5	336.1401	*	2	408.30458	*	6
299.9405	*	5	336.1401a	A	2	408.30459	A	6
299.9409	*	5	336.1402	*	2	408.30475	*	6
299.9503	*	5	336.1404	*	2	408.30495	*	6
299.9408	*	5	336.1405	A	2	408.30499	*	6
299.9409	*	5	336.1406	A	2	408.30503	*	6

(***** Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

R Number	Action	2008 MR Issue	R Number	Action	2008 MR Issue	R Number	Action	2008 MR Issue
408.30504	*	6	408.30565	*	6	418.10925	*	4
408.30505	*	6	408.30566	*	6	418.101002a	*	4
408.30506	*	6	408.30568	*	6	418.101003	*	4
408.30507	*	6	408.30569	*	6	418.101003a	A	4
408.30508	*	6	408.30570	*	6	418.101005	*	4
408.30509	*	6	408.30571	*	6	418.101015	*	4
408.30510	*	6	408.30572	*	6	418.101023	*	4
408.30511	*	6	408.30573	*	6			
408.30512	*	6	408.30574	*	6			
408.30513	*	6	408.30575	*	6			
408.30514	*	6	408.30576	*	6			
408.30516	*	6	408.30577	*	6			
408.30518	*	6	408.43201	*	5			
408.30520	*	6	408.43202	*	5			
408.30521	*	6	408.43203	*	5			
408.30522	*	6	408.43204	*	5			
408.30522a	*	6	408.43204a	A	5			
408.30523	*	6	408.43205	*	5			
408.30525	*	6	408.43206	*	5			
408.30526	*	6	408.43208	*	5			
408.30528	*	6	408.43209	*	5			
408.30529	*	6	408.43210	R	5			
408.30530	*	6	408.43212	A	5			
408.30531	*	6	408.43214	A	5			
408.30534	*	6	408.43216	A	5			
408.30536	*	6	408.43218	A	5			
408.30539	*	6	408.43220	A	5			
408.30540	*	6	418.10104	*	4			
408.30543	*	6	418.10107	*	4			
408.30544	*	6	418.10504	*	4			
408.30545	*	6	418.10901	*	4			
408.30546	*	6	418.10902	*	4			
408.30547	*	6	418.10909	*	4			
408.30551	*	6	418.10912	*	4			
408.30556	*	6	418.10913	*	4			
408.30557	*	6	418.10921	*	4			
408.30561	*	6	418.10922	*	4			
408.30562	*	6	418.10923	*	4			
408.30564	*	6	418.10923b	*	4			

(* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)



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